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THE NATIONAL APPLE USERS GROUP

OCTOBER 1989 VOLUME 4(5)

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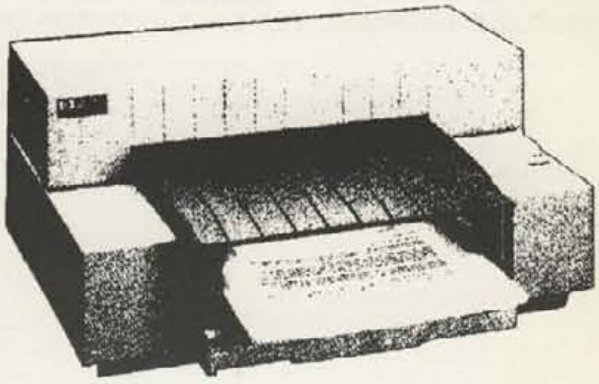

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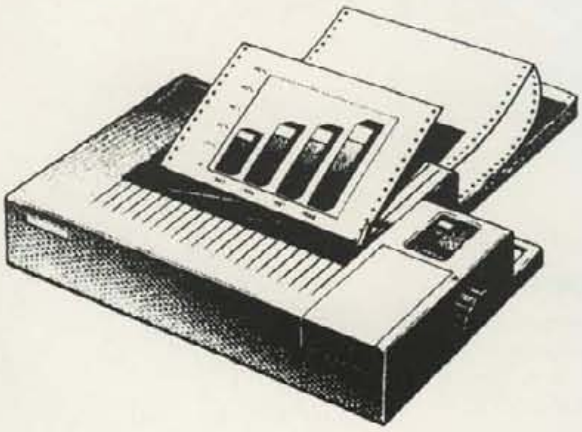

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The All Apple
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including Macintosh

Apple2000

October 1989

Apple2000
P.O.Box 3,
Liverpool,
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051 928 4142
Fax. 051 949 0307

CONTENTS

Apple2000 supports users of all the Apple computers. The ITT 2020, I, II, II+, //e, //c, //c+, IIgs, ///, Lisa, XL, Mac 128, 512 MacPlus, SE, SE/30, Mac II, IIcx, IIx, IIci and Portable.

Contributions and articles for the magazine are always welcome. We can handle any disk size or format. Please send to the PO Box, L21 8PY.

NOTE:
In general the front half of the magazine is for the Apple II, Apple IIgs and Apple /// The back half for the Macintosh and Lisa. Look out for the descriptive page icons.

Key:

Apple II, //e and //c 

Apple /// 

Apple IIgs 

Macintosh, Lisa 

Macintosh II 

Contact Points

The Force and Local Groups
John Lee
Voice 0973 844611

Administration
Irene Flaxman
051 928 4142
Fax 051 949 0307

Adverts / Admin.
Alison Davies
0732 740415

Apple II Hotline
Dave Ward
0689 812112
Mon-Fri 1900-2100

Macintosh Hotline
Tony Dart
0634 375613
Mon-Fri 0900-1700 1900-2100

TABBS
Ewen Wannop - SYSOP
Modem 0225 754797

There are a number of ways to contact Apple2000.

Force users who have a query about the service can contact the administrator, John Lee, directly for help and advice. Call him on the number opposite or send a message to his box on the Force.

If you wish to order goods or services from Apple2000, call Irene on 051 928 4142 or (during office hours) call Alison on 0732 740415. Both have Ansafones, in case they're not around. Alternatively you can Fax. to 051 949 0307, write to the PO Box or (if you use comms) you can leave orders on TABBS addressed to the SYSOP.

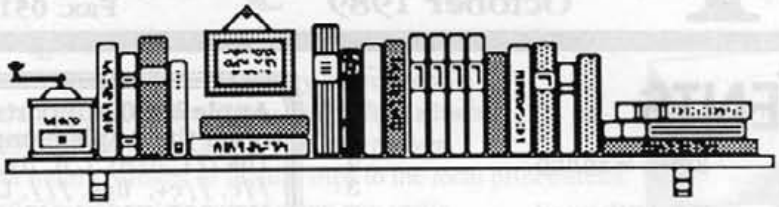
If you are experiencing problems with Apple hardware or software Dave Ward and Tony Dart run the Hotlines and will try and help you.

We are very interested in the activities of local user groups, and if you have any information which you would like publicised John Lee would like to hear from you.

Moans and Groans - We don't get many of these, but the Editors have broad shoulders, so send these to them via the PO Box.

A little praise for a few of our authors wouldn't go amiss. Send all comments, and contributions, via the PO box, especially suggestions about what you would like to see in **your** magazine.

Chairman's Corner



Autumn is the time of year when Apple2000 recruits most of its new members. Many of you reading this issue will be seeing our magazine as the first issue you receive with your 'welcome' pack. Some of you will be receiving your annual renewal notices with this copy of the magazine. 1990 will be our tenth anniversary, we plan to make it a bumper year for you all. Those who have been with us for some time will know the format and layout of the magazine, but are you really getting the most from your membership?

In addition to the magazine and news letter, we offer a comprehensive shopping service, software library, Bulletin Board, Telecom Gold system and two HotLine help lines. All these systems are run by volunteers. It is this that is our greatest strength as we spread our knowledge and expertise through a network that has grown over the last 9 years. We rely on the quality of input that you all give, both through personal contact and through the articles that you write for the magazine.

If you do not think something is good enough, ask yourself if you could help better it in some way. You can start by writing to us and telling us how it can be improved, or better still write an article. We can then all benefit from your own experience.

If you have expertise or just plain persistence and would like to help in the running of the group more directly in some way, make it known to one of the committee. They will guide you into a direction where your efforts can be of most help.

Macintosh Prices

It was very much welcomed by all when we learned of the recent drop in Macintosh prices. However, I for one, in common with other commentators, was intrigued as to why only the prices of the Mac+ and SE models were dropped. Why only the lower entry end of the Macintosh market? Is it that Apple wish to make it easier for people to enter into the Mac workplace, or is the answer more sinister, that they intend to drop these machines once stocks have run out.

The Mac+ is an old friend and would not be missed if the price of the SE was a sensible one. But the loss of the basic SE would be a bad step. The price of an SE/30 would have to be lowered a great deal for it to be the entry level machine.

We now await the introduction of the portable Macintosh (not yet released at the time of writing). By the descriptions we have had already, this is hardly a lightweight portable, at around 17 pounds it will make your knees ache on those long intercontinental flights!

I gather the display is quite something. A paper white LCD display that can be viewed in low level light. It does not seem so long ago that we saw on 'Tomorrow's World' a prototype display made in the UK that could display as well as this. I wonder whatever happened to that one?

Finally

A final word to all our new readers. The magazine is laid out in two parts. The first part is mainly, but not exclusively, for the Apple II series, the second part is mainly for the Macintosh. Check the icons at the foot of the pages, you may find something of interest in both sections!

Ewen Wannop

Annual subscription rates are £25.00 for UK residents, £30.00 for E.E.C. residents and £35.00 for other overseas members.

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The Editorial team is:

Apple II
Ewen Wannop

Macintosh
Norah Arnold
Irene Flaxman

Many thanks to all those who work behind the scenes and who receive no personal credit. These people are the stalwarts of Apple2000.

Additional thanks to Walter Lewis of Old Roan Press (051-227-4818) for our printing service, and to Ian Sharp of Sharp Studios (051-227-2788) for our cover design.

Apple2000 are Founder Members and Wholehearted Supporters of the **Apple User Group Council**

Letter Box

APOLOGY

In the July edition of Apple Slices, The Editor included a letter which purportedly had been written by Mr. Nicholas Hunter. We wish to make it clear than no such letter was received from Mr. Hunter and apologise for any inconvenience caused to him.

Apple II Letterbox

Manchester

Dear Boffin,

Since the appearance of GSOS for the Apple IIGS, I've completely lost track of the many file types which have been created or redefined since ProDos. Could you list some of the changes made since ProDos 1.6?

John Kishimoto

❑ Your wish is our command. See Page 26 for a list of current types. You will also find details in the Apple Technical Notes on disk 2GS014. These Technical notes are also available on TABBS for downloading.

The Boffin

SCSI Letterbox

[redacted]

Dear Boffin,

SCSI Hard Disk Units & Tape Streamers etc., etc..

Thank you for you reply to my letter. You obviously had to do an editing job on the letter and it was generally OK but you missed some twiddly aspects of my previous correspondence with "the Nibbler".

I have responded to the various points in a series of four Appendices to this letter.

P.C.Weedon, C.Eng., MIEE.

Appendix A
Seagate ST 251N SCSI Hard Disk Units.

This appendix addresses the subject of SCSI Hard Disk Units; you rather mis-understood my previous letter. I had originally intended to connect both Disk-Drives on the SCSI Bus, at addresses 6 & 5 respectively. However, after some initial problems, I only put them on one-at-a-time. This was principally due to connecting cable aspects with some suspicion about the capacity of my Power Supply Unit.

The second point arising from your letter is rather embarrassing. I had already bought PD Disk 188 containing S.F.& I.

I do not have an address for Seagate in the UK. I would be pleased if Apple 2000 Core or Membership could advise me.

As I mentioned in my previous letter, the ST251N drives have been formatted using software routines by Fractal. I do not have any documentation on this initialisation software or an address for Fractal; I would be grateful for any light Members could throw on this matter.

I would be pleased to discuss this matter with any other member of Apple 2000 who might have relevant experience or expertise.

Appendix B
SCSI Test-Sets.

This appendix addresses the subject of SCSI Test-Sets; you rather misunderstood the point in my previous letter. I was not asking for information on these Test-sets but rather raising the subject of DIY construction.

I do know of at least one SCSI Test-Set the Ancot Model DSC . 202. As far as the Apple hobbyist is concerned, it suffers from at least two snags:

i) It is American, and I know of no UK outlet.

ii) It uses an Infernally Bigotted Machine to display its output and as a control panel.

The first of these is likely to lead to an elevated price beyond the reach of individual hobbyists.

It was my idea that the design and build of an SCSI test-set might make a suitable project for a sub-group of Apple 2000 members which would endow the group with a useful bit of diagnostic equipment for loan to members in need. The design could also be written up in the Magazine for the benefit of those Members who were interested in DIY.

The unit could be based upon one of the standard SCSI Transceiver chips such as the NCR 5380 or equivalent plus a suitable processor chip and could interface with the outside world via an RS 232 or 422 link to a dumb Terminal. It would not need to implement such features as balanced lines if it were only to be used on Apple or Macintosh systems. The unit should be capable of operation as a full SCSI device in its own right or as an "eavesdropper", simply monitoring SCSI bus traffic. Some internal firmware would be required but surely Apple 2000 could muster the talent to get that written?

The first step would be to study ANSI X3.131.1986 which governs SCSI protocol; the second to compile a design specification. Would any members be interested to establish a working party to run such a project?

Appendix C
SCSI Tape-Streamers.

Thanks very much for the copy of the article by Dr.Kenneth Buckholz, I found it very interesting.

Noting that the project was based upon the 3M brand MCD-40 DM/ SCSI Tape Cartridge transport mechanism, I wondered whether it was possible to obtain unit in the U.K. I therefore made enquiries through a friend within the 3M organisation with a view to obtaining a technical data-sheet and information on availability and price. The reply was that 3M have transferred the manufacture of these drives to a firm called, guess, Irwin.

Of course, 3M have not relinquished manufacture of the Cartridges themselves. My friend at 3M did provide some data on these which I reproduce below.

There are some bits of Tape Streamer equipment on the Surplus Market and some members may be tempted to buy the drive mechanism with the intention of wrapping it in a DIY SCSI Interface and some DIY Back-up software. If you reckon you can, please write to me. I'm interested. BUT buy the drive with your eyes open, some of them are of very

Please submit all letters and articles to the magazine on disk wherever possible. The disks will be returned to you when the magazine is published. If you have a modem, send us letters, articles and Public Domain programs either to BSG005 or to TABBS [redacted].

limited capacity by comparison with the modern Hard Disk units. The key parameter is the number of tracks, unless your other hobby is building tape read/write heads! The attraction of back-up with a Tape Cartridge is being able to set it going and to go off and mow the lawn or wash the car while it does its stuff! This means that the Cartridge capacity must match that of the Disk being backed-up. Having said that, a drive of limited capacity, if cheap enough, may be useful in the early stages of a DIY project as a test-bed.

On the subject of Back-up Software, does any member of Apple 2000 write Macintosh software at the hobby level? I've been a member of the Group since the last MacUser Show and I have yet to see any visible signs of UK. hobbyist-written software. Perhaps you are all selling it and buying IICXs!

I do have a PD package called TAR (Tape Archive & Retrieval) but it does not seem to be very well documented. Has any member had any experience with it?

I would be grateful to receive any data, leaflets, data sheets etc. originals or photocopies, relating to Tape-Streamer units and would refund postage to senders. I would be prepared to act as librarian to others for this sort of product data.

Late Extra

I phoned Hard-Times, the shop mentioned in Dr.Kenneth Buckholz's article. They still have some stock of the 3M brand MCD-40 DM/SCSI Tape Cartridge transport mechanism, (I didn't ask how many). They seem to be willing to despatch to the U.K., charging to a Credit Card. At the time of writing this I don't know what the carriage and packing costs would. While I am pretty close to having placed an order, I have not yet got the goods in my hand.

Peter Weedon

TAPE CARTRIDGE DATA.

Product.	Length (feet)	Width (inches)	Capacity (Megabytes)	Tracks	Size
DC2000	205	0.25	40	24	"A"
DC1000	185	0.15	10/20	8/12	"B"
DC100A	140	0.15	67	2	"B"
DC600TD	600	0.25	134	32	"C"
DC600XTD	150	0.25	33	32	"C"
DC600A	600	0.25	60	16	"C"
DC615A	150	0.25	15	1	"C"
DC600XTD/HC	600	0.25	134	32	"C"
DC615XTD/HC	150	0.25	33	32	"C"
DC600HC	600	0.25	67	16	"C"
DC615HC	150	0.25	16	16	"C"
DC300XL/P	450	0.25	45	9	"C"
DC300XL	450	0.25	4.3	4	"C"
DC300A	300	0.25	2.9	4	"C"

Size "A": 2.415 x 3.186 x 0.570 inches.
Size "B": 2.415 x 3.186 x 0.470 inches.
Size "C": 4.0 x 6.0 x 0.665 inches.

❑ Thank you Peter for your extensive letter. I am sorry I misunderstood you in certain points, I think your reply amply makes up for it.

I do not have the UK address of Seagate though I do know that they have an office here. Perhaps someone can help with this and the many other points that Peter raises.

I have published your address in full so that any member who wishes can take up the challenge that you have laid down. Please let us know how things progress.

I have also printed the Tape Data that you supplied. **The Boffin**

Basic Letterbox

Edinburgh

Dear Editor,

Reading my A2-Central today, I learn that Apple have made a monumental boob with the new Basic 1.3 on the GS/OS System 5.0 disk. It appears that an RTS was left out of the code thus causing BLOAD's to immediately do a BSAVE to disk. If the load is to a piece of protected memory, the result is a trashing of the file on disk as no valid data is saved back.

I understand Apple have asked that this Basic is not used at all. You should use the old Basic 1.2 from the System 4.0 disk until a new Basic 1.4 is released.

Scott Freeman

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The venue is the Sports facility of the local Bristol Aerospace and Rolls Royce factories, located in Southmead Road, Filton, two miles from the M32 Hambrook junction.

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Local hotel list available for people staying overnight.

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Good local shopping and theatres are available. Bristol's historical waterfront is interesting and the lovely city of Bath is only 12 miles away.

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At the 'Special Interest' areas, attendees may leave notes, making informal prespective timings for discussion groups not covered by main topics. These 'areas' consist of cosy 'alcoves' around the main exhibition area.

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If you do not have a stand, but have a service to offer, this is where you leave your card/leaflet or details of your group.

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Stands costs on request between £20 and £50 depending on size and location within the hall.

All trade and other enquiries to: (0272) 693119 (evenings)
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Fractal Explorer™

E E Littlewood takes a look at the mathematical and graphic capabilities of the IIgs

Introduction

Ever since I first saw an article on Heighway's dragon I have found fractals and space-filling curves a fascinating subject. These of course are not the same thing although they often appear so as they twist and turn over the surface. In fact fractals can not be drawn as they "live" between the conventional dimensions of our real world. What one can do is draw a representation of them or at least of those which lie between one and two dimensions. There are fractals of higher dimension but these are very convoluted indeed and would be extremely difficult to represent. A space-filling curve such as Hilbert's curve, though looking like a fractal, is not in fact a fractal because it doesn't live 'between'.

What are fractals?

Fractal geometry is an attempt to simulate the geometry of the real world which does not in fact consist of those straight lines and smooth curves found in classical Euclidean geometry. Each system has of course its place in attempting to make sense of the world about us. There are two varieties of fractal and probably the most famous of the regular fractals is that of Koch's Snowflake. Another well known one is Sierpinski's Carpet which makes a very beautiful picture. The regular fractals and the space-filling curves are often referred to as dragons and can quite easily be constructed by following a code, or set of rules which is repeated each 'generation'. The programming of these makes a good example of the use of recursive techniques in program construction. This program however, Fractal Explorer, does not deal with these but with those fractals known as the domains of attraction. For an explanation of these, I feel one would need to read Mandelbrot's book (see Bibliography).

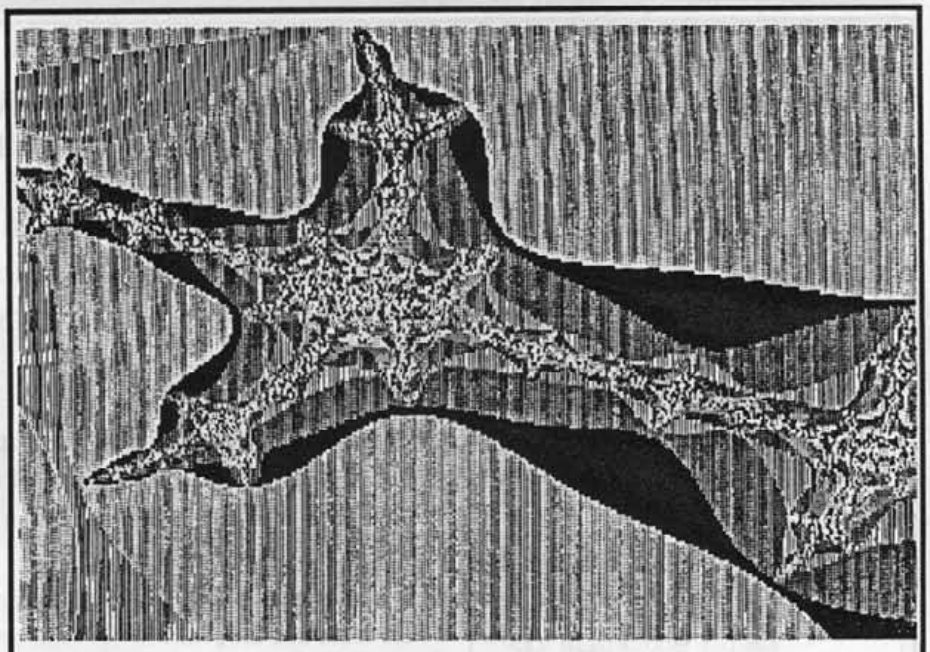
What you get

I had the IIGS version of this program to review and so the program I received was a Prodos compatible version (which one would expect these days) on a 3.5 inch disk which was not copy protected. It was very easy therefore to move a copy onto my hard disk and run the program from there.

The documentation provided consisted of a small booklet approximately a folded B5 in size with a soft card cover. Unfortunately, I did not think that the contents of the booklet were attractive either in layout and presentation or particularly informative to the user. As far as layout is concerned, the booklet tends to give the appearance of typed and photocopied text and on page 4 for example the text stops short with an unfinished sentence, suggesting that proof-reading and general care for detail was not given enough attention. None of this prevents the program from doing what it sets out to do (more on that later) but I feel that good documentation is indicative of good programming. The documentation describes the algorithm used to generate the pictures. It does NOT tell you what a "Domains of Attraction Fractal" is and quite rightly so in my opinion as it would be impossible in so limited a space. It does however talk about Complex Polynomial Iterative Functions and explains that the parent image is created by implementing the expression $Zn+1 = Zn2 + C$ where Z and C are complex numbers. It even goes so far as to explain what a complex number is. I found that those of my friends who were not already familiar with these found the explanations quite incomprehensible, in other words unless you were already familiar with the mathematics of complex numbers, this was pointless. If you were already familiar, the explanation was superfluous.

The program

There are two parts to this program, one being the creation of new fractal pictures, the other being a display program which will run a slide-show of the pictures on the disk. Dealing with the creation of new pictures first: as I said above, I felt that the manual expected too much of an ordinary user and yet did not go far enough if it was setting out to be educational. Not that it matters really to the user, but there remains some doubt in my mind as to whom this manual is addressed. The pictures are created on the basis of the Mandelbrot set. (Benoit Mandelbrot is a French mathematician who could almost be considered the guru of the fractal world.) Once the 'parent' picture is created, one can zoom in on a portion of it and then create a new picture. The process can be repeated over and over as often as wished. Be warned however that the time taken to create a picture increases as the depth of zooming increases. Some pictures may in fact take 20 hours or more to be developed; if you had for example chosen a zoom level of 10 this is the time scale you ought to expect. Although the initial Mandelbrot Set Picture was provided on disk I decided to recreate it as a time test. This initial picture can be considered as having a zoom



Picture 1

value of zero and it took approximately 2 hours 10 minutes to create. Once created, the pictures, which are $C1 type, may be used in the slide-show or exported and used in Apple IIGS paint programs such as Paintworks. If the pictures are modified by a paint program one can not then create new fractal pictures from them. It is however the recommended way to provide printouts of the pictures. Since the times involved are so great, it is reassuring to know that it is possible to halt the process and then continue it at a later date. I am not sure though that I would leave the program running overnight as suggested in the manual, for that I would want an automatic save, say every hour or every so many iterations. In addition to the creation of pictures based on the Mandelbrot Set, one can also create Julia Set pictures. These are derived from a Mandelbrot picture, zoomed or otherwise, but you are warned that trying to derive them from a zoomed Mandelbrot Set or indeed a previous Julia Set will give unpredictable results. Julia Set pictures are calculated using an expression similar to that of the Mandelbrot Set but instead of scanning the values of C, this value is chosen by the user, and then the values of Z are scanned. This is the other way round to the evaluation for the Mandelbrot Set.

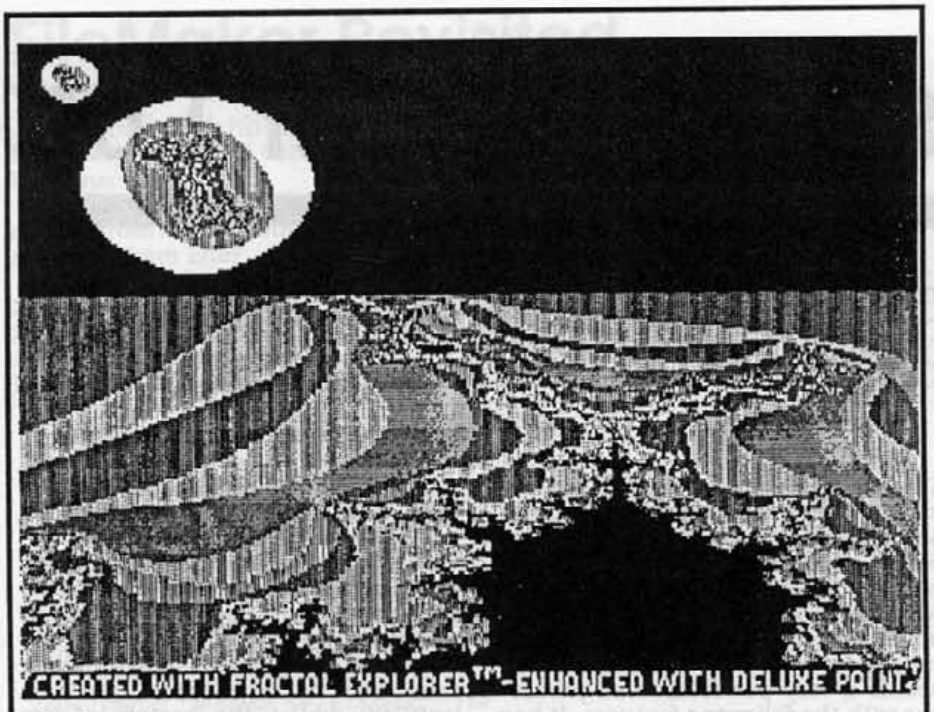
Fractal Explorer is in my opinion primarily a slide-show program as I doubt whether many people would be willing to tie up their computer for such lengths of time even with the facility to suspend the production and continue it at a later date. There are a number of pictures, 16 in fact, already on the disk ready for you to use in the slide-show. It is possible to set one's own parameters in order to run the slide-show as wished. The effects are varied and the show is in fact beautiful in a quite fascinating way. Some of the variations possible are:-

- Colour Complement Picture
- Exclusive Or the Palette
- Cycle the colours up or down through the Palette
- Select a Palette
- Colour Fill Mode
- Set the time for display of each picture
- Number of times to repeat the slide-show.

Some of these are also available while the show is running.

As I said earlier, the program deals with the domains of attraction and finding attractive samples of these fractals is mostly a matter of luck. The pictures on this disk are good ones. [See picture 1 - A Fractal Picture zoomed 8 times and reminiscent of an animal claw]

If you wish to use your own creations, it is necessary to set them up named Frac.picGS1 through Frac.picGS18 for the slide-show program to operate correctly. Incidentally, the programs are written in Basic though the iteration and drawing program is an assembly routine.



Picture 2

I said that I didn't think the documentation was very well produced. I must also say that I didn't think the on-screen presentation was very attractive either. Although this was a IIGS version of the program, the menu screens were very dull looking text screen versions, no attempt being made to use the windowing and pull-down menus of the IIGS interface. Once again I was left with the impression that not much care had gone into the presentation of this program.

Conclusion

In conclusion, it is difficult to see who would want to buy this program. It is not in fact educational although perhaps a college would be prepared to give the necessary time to create some of the pictures; a business user certainly wouldn't. As for using them as a start point for a paint program I am sure a creative artist can manage perfectly well without waiting a possible 10-20 hours for inspiration to arrive. The picture on the disk created in this way [see Pic 2 a Fractal picture modified with Deluxe Paint] is undoubtedly attractive but could easily be done without this program. We are then left with the home user as a possible buyer. Perhaps it is now appropriate to mention that a Public Domain program exists which will produce all the Mandelbrot Set pictures this program produces (the Julia Set being promised in the next version) and it operates in a true IIGS environment. The PD program is written in Pascal and the time taken to produce the parent picture is approximately 2 hours 30 minutes. The difference in timing is not too great, given that all these pictures are going to take a long time to produce. We are left therefore with the slide-show program. The difference between completely free and £39.95 for a slide-show is in my opinion far too great to contemplate and therefore I couldn't recommend this program as value for money, even though the performance of the program is at an acceptable level.

Book references made in manual:
Mandelbrot, Benoit. The Fractal Geometry of Nature. W.H. Freeman and Co. Pietgen,
Heinz-Otto. The Beauty of Fractals. Springer-Verlag.
Gleick, James. CHAOS Making a New Science. Viking Press.

E. E. Littlewood

info

Product : Fractal Explorer
Publisher : ECLAT Micro
Available from :
MGA Softcat
Pear Tree
Appledore
Kent TN26 2AR
(0233) 83571
Price : £39.95

Value : ❦❦
Performance : ❦❦❦
Documentation : ❦❦

Sensible Writer 1.01

David A Beale reviews a budget priced WYSIWIG word processor

This is a personal review of a moderately moderately priced word-processor (£59.95 available from Business Sense Computing Ltd, 48 Priestpopple, Hexham, Northumberland, NE46 1PP) which I have not seen advertised within the Apple 2000 magazine. Despite its simplicity it seems a very powerful word-processor with the following features. It has a mail merge function and an address envelope function, but I think its greatest plus is that you are not limited to an 80 column screen width as it can scroll horizontally as well as vertically. You can have a maximum of two documents open at once and you can also copy information from one document to another. It also has an Append facility to allow documents to be joined into one large document. It has a Sensible Writer format and also has the ability to read Appleworks files and has two Text file types (which I do not know the difference between!). It also has a configuration menu for different printers (it allows the user to enter codes to enable underlining and bold procedures if your printer is capable of doing them) and for loading the software onto hard disk. It also has the ability to be able to format disks and lock documents without exiting the program. It also allows you to exit to a Spell checker program. I do not have one to try this feature.

The Manual

The ring-bound manual is split into a tutorial section which uses data files on the supplied disk and a reference section. I find it has adequate indexing. I know the program can run on an extended IIe and IIGS - I do not know about compatibility with other machines as I do not have access to them. It comes in Prodos 8 v 1.2 format and the 5 1/4" disk version can be read on both Apple Disk II drives and the Profile double-disk drives on a IIGS. The IIGS version comes on 3 1/2" diskette.

Features

A unique feature of this word-processor is that it uses a menu driven system (like Macintoshes) which can be used without a mouse on the Apple IIe. Without a mouse you obviously have to learn the keyboard equivalents to be able to access them.

The program permanently displays seven menus and a 'window' in inverse video on the screen, within which you enter your text etc. At the top of the window it displays the file name (new documents are named as untitled) whilst the bottom of the screen displays the current page number and a highlighted text with Style and Selection.

Moving around the screen

Without a mouse you use the ESC key to highlight the menu, the right and left arrow keys to move horizontally through the menus and the up and down menus to access each subcommand. Some dialogue boxes such as the File and Open dialogue box also require the use of the Tab key as well. Pressing the Return key allows the command to be selected. If Return has not been pressed, then another press of the ESC key can take you out without a selection. The menus also have an Open Apple letter command as well to select them. The menus also display current choices (equivalent to the tick mark on the Macintoshes) with an inverse D sign. A checkerboard box appears beside commands which cannot be selected. Obviously with the IIGS you have the option of using either the mouse or the keyboard.

Rulers

The program uses the system of Master and local rulers. It has a Master ruler with markers to control features such as overall page widths. The Master and local rulers allow you to change the format of following paragraphs. It has a paragraph indent and left hand page marker with left, right, center and fully justified text markers. It also has single, line-and-a-half and double line spacing marker although this does not show up on the screen. It also has left tab markers which can be used to create tables. Unfortunately it does not have centre or right or decimal tabs. It also has a ruler coverage option which highlights the text covered by a particular ruler format. This is dependant on the cursor location within the body of text. The rulers cannot be physically moved but are associated with paragraphs. Only paragraphs following an inserted ruler will take on its new settings.

Headers and Footers

You can also use headers and footers although these are not displayed on the monitor. Within the headers and footers you also have the ability to set up ruler settings. It allows you to type in @page to display the page number, @time to display the time and @date to display the date.

Editing

On the text side it has an undo feature and it also has a moveable insert cursor which can also become an overtype cursor. Text can be highlighted for deletion or for applying a text style such as bold, italic or underline (if your printer is capable of doing this).It has a find and also a search and replace facility which can search for part of a word or whole word and can also be set to be case dependant. You can also insert manual page breaks (which shows up in the text as Forced Page Break and uses = sign across the screen to denote this) and also specify a title page for your document as well as set the starting page number. It also has a go to page number command.

It also has a Show Return command which shows paragraph breaks. You can scroll through the text using the arrows or you can use Open Apple and a number to move through the document eg Open Apple 9 takes you to the end of the document and Open Apple 5 to the middle of the document etc. It also has a type ahead facility which can be turned off by pressing a Control key combination. It also displays the keyboard commands as well as the Open Apple commands displayed in the menus.

It has the equivalent of an information window which shows the software publisher as well as details of how much memory you have available for your document as well as the document size in K and how many pages long the document is.

This program can also read Appleworks word-processing files without any problem.

Printing

As regards to printing, the number of characters per inch that you specify alters the page width when printing.The smaller the number of cpi you specify the wider an overall ruler width can be displayed in the Master and local ruler settings. The other slightly annoying thing I found is that if I changed these an @= would be printed at the top left of the printout!I assume this is the control codes for the printer.

The mail merge function is easy to use. An example of this comes on the

program disk. It uses what I call a data document with all the data separated by Returns. The data cannot be spaced out across the screen horizontally so you will get a very long document if you have lots of data! The master document contains the field names surrounded in backslash symbols.

Addressing Envelopes

The address envelope is a neat little function. This can print an address on an envelope on either small or large sized envelopes without the need to retype in the address again. If you have an address at the top of the page with at least two Retunrs after the last line, this is used for the address. It will format the address on the envelope ie it will add a few linefeeds and center the address on the envelope. I am not sure what size of envelope constitutes a small or large envelope.

Conclusions

I think from this review you can see that this is a very powerful but simple to use word-processing programme. It is WYSIWIG but remember it cannot display headers and footers on the screen. With a mouse it is obviously easier to select items from menus and to use, but on my Apple IIe I find the keyboard quite adequate for selecting commands from the menus. Compared to Appleworks, it is stored on one disk only and data can be kept on this same disk or you can use data disks. I find I can more quickly generate documents on this than I can using Appleworks. It seems very intuitive and easy to use and I bet most people could discover how to use this adequately without any reference to a manual.

The program requires an Apple //e, //c or IIgs with or without a mouse.

David A Beale

info

Product : Sensible Writer 1.01
Publisher : Sensible Software
Available from :
Business Sense
Computing Ltd
48 Priestpopple, Hexham
Northumberland
NE45 1PP
Price : £59.95

Value :
Performance :
Documentation :

FileMaker Revisited

I have read Mick Knapp's article in the April issue about "Diverse Databases". I was very interested because many times I also need to transfer files between both machines.

However, I think that it isn't a good solution to remove all the commas or quotes from the file (Surely they are there because they are needed!) and then reinstall them later.

A better way would be to use the normal TEXT file format to export data to FileMaker. The only thing we need is a way to insert a TAB character between fields. To do this, I use this little program to read the text file as created by AppleWorks and to write another one with the correct TEXT format to be sent later to the Mac and read by FileMaker.

```
10  REM - FILEREADER -
20 :
100  ONERR  GOTO  500
110 :
120 D$ =  CHR$ (4)
130 AD = 768:N = 50
140  FOR I = AD TO AD + N: READ J: POKE I,J: NEXT
150 :
200  INPUT "NAME OF FILE: ";F1$
210  INPUT "SLOT NUMBER: ";S
220  INPUT "DRIVE NUMBER: ";D
230  INPUT "NUMBER OF FIELDS: ";NF
240  PRINT
250 :
300 F2$ = F1$ + ".2"
310  PRINT D$"OPEN"F1$",S"S",D"D
320  PRINT D$"OPEN"F2$",S"S",D"D
330 NR = 0
340 :
400  PRINT D$;"FRE(0)":RE$ = "":FIELDS = 0
410 :
420  PRINT D$"READ"F1$
430  CALL AD,B$:RE$ = RE$ + B$:FIELDS = FIELDS + 1
440  IF FIELDS < NF THEN RE$ = RE$ +  CHR$ (9): GOTO 420
450 :
460  PRINT D$"WRITE"F2$
470 NR = NR + 1: PRINT "Reg."NR" "RE$ : REM Only for control
purposes
480  PRINT RE$ : REM Only for control purposes
490  GOTO 400
495 :
500  PRINT D$"CLOSE"
510  PRINT "END OF FILE"
520  END
530 :
600  DATA  32,190,222,32,227,223,32,44,213,162
610  DATA  255,232,189,0,2,201,0,208,248,138
620  DATA  32,213,227,160,0,165,157,145,131,200
630  DATA  165,158,145,131,200,165,159,145,131,165
640  DATA  157,162,0,160,2,32,226,229,76,149
650  DATA  217
```

The program is in a "brute force" style and works in a straightforward manner:

Lines 120 to 150 install on page $3 a common "input anything" routine (this one was taken from Paul Irwin's Amp-L-Soft, published on Nibble Express, Vol.3)

Lines 200-230 request the file name, slot, drive and number of fields in each record.

Line 300 ads a ".2" to input file name to create a name for output file.

Each field is read on variable B$ and appended to the output record.

Line 440 ads a TAB to each field, excepting for the last one. When the total number of fields in each record is reached, the record is written to output file in line 460.

Lines 470-480 show the record on screen for control purposes only and can be supressed if you like.

If you don't really have a Null-Modem cable (with transmit and receive wires reversed), you can do the same thing with your normal modem cable only setting the card to printer mode. The Null-Modem is already built-in on the SuperSerial Card jumper block (Terminal or printer setting) or in the printer connector on Serial Pro card (Thanks to Michael Brown on TABBS for his help about cables!).

José A. Accino

Hardcore Pips

Our dip into the BASUG archives this month brings two articles from John Sharp's Beginners Pages

INT IT A PROBLEM

There have been a number of beginners writing in requesting help with binary files, so this month let us begin with a look at what possible files you might have on a disk.

If you catalog a disk you will get something like this:-

```
A   002 HELLO
I   020 DRAGON MAZE
A * 004 PROGRAM 1
B * 002 FILE 1
T   003 TEXT FILE
R * 005 ANOTHER FILE
```

You may not get all these on one disk, and indeed you may not even have seen a T or R or even B on your disks. Leaving aside the first column of A,I,R,T,B for the moment, what does the rest mean. Well the * tells you if a file is locked. If it is locked, you cannot write to the disk with the same program name. That is you cannot wipe out your program on the disk by overwriting it. The number is the number of sectors the program takes up on the disk. As a rough guide each sector is 0.25K. The name to the right is just that, the name of the file. I say file because it is that rather than a program. It is only when entered correctly into the Apple that it becomes a program, if it indeed is. A file with a T in the first column, is not a program. It might be a TEXT file to EXEC or it might be as the prefix suggests a TEXT file. A TEXT FILE is a bunch of data ready to be read into a program, e.g. a set of records, such as a set of names and addresses. If you want to see what is in a TEXT file then type:-

```
MON I,O,C          <RETURN>
EXEC XXXXXXX       <RETURN>
```

where XXXXXXX is the name of the TEXT FILE you want to look at. As each bit of data is printed, since you are doing the equivalent of typing in directly from the keyboard and pressing return, you will get SYNTAX ERROR, just as you would if you typed a command the APPLE does not understand. You can slow down the screen printing by using CTRL-S. It tends to be a little noisy because of all the beeps and syntax errors, but can be a very useful tool. You could use the READ TEXT program on the master disk.

The A and I program file names are fairly straightforward. They correspond to APPLESOFT and INTEGER program files respectively. Unless you are only running disks that boot and take over the machine, you will be familiar with both of them.

The problem arises, however, with B (and R) files. B stands for BINARY FILES. R stands for RELOCATABLE FILES which are a special type of Binary file. You will see some on the DOS 3.3 TOOLKIT disk. They are produced from the APPLE ASSEMBLER on this same disk. So apart from a slight difference, they are basically the same type of file, a saving of a batch of machine code to disk. This can have various functions once it is in memory and this causes the problems for beginners.

The first type of file it can be is a program, written in machine code to make it run faster. A program example is a FID, MUFFIN or MASTER CREATE (on DOS 3.3 MASTER), and UPDATE 3.2.1 (on the DOS 3.2 MASTER). In order to get these to run as programs, simply BRUN FID or whatever the program name is.

Before going further, the number 034 or whatever is the number of sectors the file takes up on the disk. It only helps you (and the DOS) to keep track of how much of the disk you are using. This is dealt with in the DOS manual so I will not go into it here. For those mebers with tape only it wil help to explain waht these numbers mean in the software library lists. As a rough guide, four sectors equals 1K of program.

The next type of file is a Hi-Res Picture that has been saved. The length of memory taken up by a Hi-Res Picture is 34 sectors; so if you see :-

```
B * 034 BASUG LOGO
```

on a disk catalog, you can be fairly confident that it is a picture. There may be other binary files coincidentally 34 sectors long which are not pictures, but the name usually tells you they are not . Alternatively, there are now ways of compressing pictures, so a picture can be less than 34 sectors. You then need a special program to put them back on the Hi-Res pages correctly. If you try to BRUN a Hi-Res picture, anything could happen. Normally you will just halt in Monitor. Try a few and see. You will not do the Apple any harm, just confuse it.

The third type of binary file is a set of data used in a program. It is a little bit like a text file except that it is totally machine code and wouldn't mean anything except to the program that uses it. The best example is a shape table which is a set of points and directions. If looked at other than a shape table by the program you are using, it is totally meaningless. A good programmer will put some indication such as MARTIANS.OBJ or MARTIAN.SHAPE to let you know it is used in another program. The DOS 3.3 TOOLKIT fonts for example are labelled BYTE.SET, ROMAN.SET etc. to make this clear. It is as important as putting REM statements in if you wish to let others know what is going on. On some of the software library disks there are binary programs with just a single letter or a pair of letters: these are fairly obviously used by another program, and the author has made them too short to make you think to run them; the name just doesn't mean anything.

Another type of set of machine code might be data as for example in the copy program on the 3.3 Master disk. The copy programs look like this:-

```
* I 009 COPY
* B 003 COPY.OBJ0
* A 009 COPYA
```

There are versions for you to use for copying disks if the BASIC you are using is INTEGER (the first one) or APPLESOFT (the last one, which has an A tagged on the end since two programs cannot have the same name on the same disk otherwise there would be confusion when it came to running them.) In between is a machine code set of data for the other programs (both of them) to use. If you list these programs you will see a line that has a print"BLOAD COPY.OBJ0"at line ... Why no D$=CHR$(4), well there is an invisible CTRL-D. You could see this if you used something like The APPPLESOFT PROGRAMMERS ASSISTANT on the DOS 3.3 TOOLKIT, or the PROGRAM LINE EDITOR.

The most confusing programs on the 3.3 Master it would seem are cataloged as:-

```
B * 050 FPBASIC
B * 050 INTBASIC
```

They are in fact APPLESOFT (or Floating Point BASIC) and INTeger BASIC, respectively. If you have a language or RAM card, then these files will be loaded onto the language card and the card locked so that it appears to be an INTEGER CARD or

APPLESOFT ROM CARD. If you have an APPLE II PLUS, look at the HELLO program, by just loading it. LINE 210 has "BLOAD INTBASIC,A$D000". Again there is an invisible CTRL-D. The A$D000 means load it at position D000 in memory, which is on the language card.

When a binary file is saved, it is necessary to tell DOS the start and ending locations of the program. This information is saved onto the disk. When you load the program back, it will be loaded into the same position, unless you tell it otherwise. The A$D000 in this BLOAD statement tells it not to load it where it was saved from. This is in fact in the middle of memory and it will load there if you just BLOAD INTBASIC. If you try to BRUN INTBASIC, then since it is not written to run in this location, but on the language card, it will cause you to think your machine has developed a fault.

John Sharp (February 1982)

SO YOUR PROGRAM DOESN'T WORK

Typing programs in from magazines or writing them yourself is not the easiest of jobs at the beginning. So a few tips for a beginner are always welcome.

The most important thing you should do before you start is type NEW. Otherwise you will have a number of lines of another program you don't want. If you have not typed NEW, as you type in your program, you will delete some of the previous program lines by writing lines with the same number. Others you will leave. Your program will then be trying to sort out the logic of the previous program and of yours as well. This is tedious to sort out as you have to go through the listing line by line.

If you are typing from a listing then, providing it is correct, your program will run without any problems. If not there are two possibilities. If you are typing in from a listing and you have confidence that it is a correct listing, then you could go through it character by character to see if you have made an error. If you have done this or you are writing your own program then there are a number of debugging tips you can follow. These are not foolproof, so it is worth looking at common problems with copying listings.

The first thing you should do is run the program. This will tell you that the program does run without syntax errors being present. That is of course providing you access all the lines. Sometimes you might not take a particular option and so miss going through a subroutine or even one particular line. Then it becomes difficult to find that error. If you have done this and there is a problem, you will be presented for example with:-

```
?SYNTAX ERROR IN 45
```

and you could go back to the listing and check line 45 character for character. It could be that a simple mistyping of INPIT instead of INPUT has been made. The most common type of error is a missed character. In particular, the colon ":" and "semicolon ";" are the crucial parts of many lines, so it is worth looking at what they do.

Consider the following program :-

```
10 A = 51
20 PRINT "APPLES ARE"
30 PRINT A
40 PRINT "PENCE EACH"
```

This would print :-

```
APPLES ARE
51
PENCE EACH
```

If you wanted to print

```
APPLES ARE 51 PENCE EACH
```

it is necessary to add a semicolon to the end of each line because a semicolon means carry on printing where you left off last.

Normally a program would not present the information on three lines but as a single line :-

```
10 A = 51
20 PRINT "APPLES ARE"; A ;
"PENCE EACH"
```

Now consider the case of an input statement :-

```
10 INPUT "HOW MUCH DO APPLES
COST ";A
```

This would set the cursor after the question. If the question was put after a PRINT statement as follows, and the INPUT separately then it is still possible to place the cursor waiting for the input next to the question by adding the semicolon:-

```
10 PRINT "HOW MUCH DO APPLES
COST ";
15 INPUT A
```

Sometimes it is necessary to do it this way, and continue on the same BASIC line. Thus lines 10 and 15 would come together as

```
10 PRINT "HOW MUCH DO APPLES
COST ";:INPUT A
```

Another common error is to leave out the "$" sign at the end of a string variable or put one in when there should not be one. The variable "A" is a numerical variable. The numerical variable "A$" is a string - a set of characters. Mistyping would not give an error of syntax because the computer sees no problem. So the error comes up further in the program. Suppose as follows there is meant to be a string response in line 100 and the following is typed in:-

```
100 INPUT "A RESPONSE ";A

    a lot more program

810 PRINT MID$ (A$,2,1)
```

This time nothing is fed back in the way of errors. When line 810 is reached, an attempt to print the second character of A$ is met with a blank, because although you meant A$ to be created in line 100, it wasn't. A response to a numerical variable was made. If you had tried to enter an alphabetic character then the response

```
? REENTER
```

would be made by the computer.

The opposite problem of adding the "$" when it shouldn't be there gives a response as follows:-

```
200 INPUT "THE NUMBER ";A$
210 B = 20 * A
```

gives a value of zero for variable B, since no value has been assigned to A. If you tried :-

```
220 B = 20 * A$
```

you would be greeted with :-

```
TYPE MISMATCH ERROR IN 220
```

This means the type of variable (a string) is wrong.

This would also arise if the "$" was left off in the following case:-

```
300 ? LEFT$(A,3)
```

Taking the third from the left character of a number is not possible directly. This time there would be a syntax error and so the computer would drop back into immediate mode.

John Sharp (December 1982)

The MiniPics used in the Apple2000 magazine are provided by courtesy of ADVERKIT International, Bowerdene House, Number One Bower Terrace, Maidstone ME16 8RY Tel: (0622) 687654

AUG Sweden

We bring you reviews of the Beagle Font Editor and Program Writer from the Apple User Group Sweden

BEAGLE BROS NEW FONT EDITOR IS HERE AT LAST

It can make any type of character

In nearly all European languages, except of course English, there are characters, special to the language in question, which are not found on a standard Apple II keyboard. In the Swedish alphabet there are three characters,], [and \, which often cause trouble to Apple-users in Sweden.

Now, however, the problem is solved, thanks to Beagle Brothers' "GS Font Editor". A Swedish Apple-user is now able to create, without difficulty, the characters }, { and | for all fonts of "Superfonts" or "Publish it!". You can even enlarge the fonts to 127 points, more than two inches high...

One of the last days in May the ordered and eagerly awaited parcel from BB. containing the "GS Font Editor" reached our "Beagle Buddy" - Andreas Wennborg of Gothenburg - after a long period of uncertainty and waiting.

But it was well worth waiting for

With their "Timeout"-series the Beagle Bros. Company has given to Apple-users - and to "Appleworks" - a very useful collection of software, an all-round tool which now is still more easy to use, with "Font Editor".

In all fairness it should perhaps be mentioned that there already existed one (or more?) "GS Font Editor" made by an American, John G. Thomas; his editor reached Sweden through "A2 Central". After improvements by, among others, Christer Skoglund in AUG it worked fairly well. Still, it had its limitations especially when used with large fonts. In the absence of anything better it had to do.

About BB:s "Font Editor": it is easy to learn how to use it, and there is no trouble to work with it - but you must have a mouse, although many commands have "bypasses", e.g. for commands such as "copy", "paste", "cut".

When you start the program you get a schedule of "Chicago 12", called a "basic font". All characters in the font are displayed on this "main screen". Many "GS-fonts" contain up to three character sets, and if the special characters you want are in one of these, the only thing you have to do is to move them to their right places.

If the characters you want are not in any of the standard sets, then you must create them. As an example we will use the Swedish letters "}", "{" and "|". Letters "a" and "o" are used as a basis for further development. Next step is to display on the monitor screen a magnified "editing picture" of the basis of the character you want to make. Next, the dots above "a" and "o" are created, pixel by pixel. To one side of the screen you may observe how the dots are growing; also displayed is the appearance of the character in six different typefaces: ordinary, italics, semibold, shadowed, underlined and outline.

Unfortunately the new letter will not be presented on the "main screen". To one side of the screen, however, there is a "samples window" where the appearance of the current font is displayed, including the new character. You can also write it there using the keyboard.

In case you should like to save the new font to another disk than the one where you made it you must hold in readiness a disk with the same name as the first one.

Still, the most imposing feat of the "Font Editor" is its "scale font" that makes it possible to magnify fonts from 12 points to 127 points - provided the RAM is large enough (there is a limit at 32k, larger fonts must be divided into two files, for instance large print in one and small print in an other).

Unfortunately this feature does not always work correctly and I don't know why. Some fonts are easy to magnify, others not. Magnifying seems easier to perform than diminishing. I am certain that BB:s programmers will get rid of this bug in the next version of the program.

A word about the manual. In their usual excellent manner, BB:s manual writers explain almost everything in an easily understandable and simple way - with a little joke or a tip to the lazy Apple user sprinkled over the pages.

CONCLUSION:

"Font Editor" enables those who use a non-English language to have a large choice of fonts to their "Superfonts" and "Publish it!" programs. The position regarding other DTP-programs is unknown to me. The only disadvantage in "Font Editor", from my point of view, is that it requires a mouse - rather a small flaw I should say, although I am a firm believer in using the key-board.

N-G Bullen Berglund

❑ PS. This review is of the first, delighted impression of "Font Editor" after only two days' use. Of course there may, in the future, emerge more details one should like to change - but I doubt it. The first impression is often the right one. Regarding mouses, I have been converted to a keen mouse-user and I am now able to make it draw straight lines, horizontal as well as vertical.

Translated by Paul Mitlid

PROGRAM WRITER

Surely most Apple-users interested in programming have, at some occasion, tried to edit a BASIC-program with the help of the Line Editor resident in APPLE and felt frustrated by its many imperfections. For instance, an entire line has to be rewritten when only a few characters have been changed. To INSERT new characters is almost impossible without using the ESC-key to move the cursor; I'm sure you have stumbled on this ungainliness some time. Further, if you copy a line with the help of the arrow keys and you reach the end of a line and want to proceed on the next, then the Line Editor puts a lot of blanks into the BASIC-line.

All such troubles have now come to an end, thanks to an editor program called PROGRAM WRITER.

PROGRAM WRITER is a full-screen editor program which permits you to make any change you want in your BASIC program, swiftly and without trouble. You can add and delete lines, renumber, copy, list, scroll forward and reverse, line by line or page by page. You can even use a mouse with it.

PROGRAM WRITER is available in six versions, three for ProDOS and three for DOS 3.3. The most complete version, called EDITOR, has all commands and consequently occupies a fairly large part of the memory. Version EDITOR.SMALL is shrinked to economize with the memory and has fewer commands. Version EDITOR.LC, is intended for Apple-owners having a language card: this version occupies only the language card; the rest of the memory is available for the program to be edited.

BIDMUTHIN TECHNOLOGIES

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Most commands in PROGRAM WRITER are similar to their equivalents in Appleworks' Word Processor and are therefore easy to learn and use. PROGRAM WRITER's set of commands may be exchanged for others of your own invention. There is also a powerful set of macros which may be changed according to your wishes.

You enter PROGRAM WRITER into memory: in ProDOS by writing "-EDITOR", in DOS 3.3 "BRUN EDITOR". To call PROGRAM WRITER you push the "&" (ampersand) key twice followed by a RETURN. If you already have your BASIC program in memory, the monitor screen will be filled with BASIC lines; if you haven't, the screen will be blank. You must enter your BASIC program first and then call the PROGRAM WRITER.

Since you have a FULL SCREEN editor you don't need to push the RETURN key or copy all characters the way you had to in the past; you may just move the cursor to the line where you want to make corrections and then position the cursor on the characters you want to change. When you have carried out your alterations, move the cursor to the next position you want to modify, WITHOUT TOUCHING the RETURN key! You proceed in this manner until you have edited the entire program.

When you have finished editing your program you push OPENAPPLE-Q to leave PROGRAM WRITER. You then SAVE your program to a disk or diskette in the usual way.

Birre Genberg, AUG-Sweden

Translated by Paul Mitlid

PROGRAM WRITER editor commands:

A = OPEN-APPLE

A-1 to A-9: moves the cursor relative within the program
A-# (RENUMBER): renumbers the program completely or partly
A-,: moves the cursor to the beginning of a BASIC-line
A-.: moves the cursor to the end of a BASIC-line
A-A: automatic line numbering
A-C (COPY): copies part of a BASIC line to the clipboard
A-D: deletes one or more program lines
A-E: changes the cursor from insert- to replace-mode
A-F (FIND): finds a specified text in the program
A-I: inserts a new line
A-H (HARD COPY): copies all characters on the screen to the printer
A-J (JUMP): jumps to a line with a specified number
A-L: converts the character under the cursor to lower case
A-M: displays all entered macros
A-N: removes spaces in a line between keywords, variables, etc
A-O: for inserting CTRL and ESC
A-P (PASTE): moves text from the clipboard to a BASIC-line
A-Q (QUIT): to leave PROGRAM WRITER
A-R (REPLACE): exchanges one string of text for another
A-T: divides a BASIC-line into two lines
A-U: converts the character under the cursor to upper case
A-W (WORD):searches or replaces complete words
A-V: lists all variables in the program
A-X: changes between 40 and 80 characters per line
A-Y: deletes all characters from the cursor to the end of the line
A-Z: deletes PROGRAM WRITER from memory

info

Product : GS Font Editor
Publisher : Beagle Brothers
Price : £39.95 inc VAT

Product : Program Writer
Publisher : Beagle Brothers
Price : £37.95 inc VAT

Available from :
MGA Softcat
Pear Tree
Appledore
Kent TN26 2AR
(0233) 83571

All MGA prices include VAT and Post and Packing in displayed prices

HP DeskJet Printer

A review by Keith Rookledge

HP DeskJet Printers represent one area where there is a lot of choice both in terms of cost and quality. We all aspire to a Laser Printer but this represents the top of the range in terms of price.

The Hewlett Packard DeskJet represents an alternate which is very affordable and this short review deals with this instrument.

The unit comes, as we all expect, well packaged. It is easy to assemble requiring connection to the mains, computer and insertion of the ink cartridge. There is an excellent manual and in addition, the unit I have came with an additional font cartridge which was an Epson emulator.

Cut sheet paper is placed in the hopper in the front of the unit and the only other action required was to set up the dip switches for the English operation mode.

I have a IIGS and after changing the printer options the unit was up and going and even printed £ signs!

The unit is small, the footprint being 12 by 19 inches and in addition operation is almost completely silent- no more daisy wheel clatter if you get one of these.

There is a buffer of 16K. and the unit can be connected to either a serial or parallel port. The speed of operation is not as fast as a laser printer and depends on the density of the page being printed. A normal A4 sheet will be printed at the rate of 1-4 sheets per minute.

The unit comes with a built in font, good old Courier and in addition there is an excellent range of Font cartridges which are very easy to change. Fonts are selected using a series of buttons on the top of the unit. The ink cartridge cost just over £12 and is reputed to produce over 3 million characters, so it seems a lot less expensive than a laser printer in terms of consumables.

In conclusion I can only say that this represents the best value for money in terms of printers that I have found. The quality of the output is excellent and the unit is very easy to use. I can only say I was very impressed.

Keith Rookledge

info

Product : DeskJet printer
Publisher : Hewlett Packard
Available from :
Bidmuthin Technologies
Brent House
214 Kenton Road
Harrow. Middx. HA3 8BT
(01) 907 8516
Price : £595 ex VAT (one font)

Value :
Performance :
Documentation :

Pot Pourri of Games

Robert Hornby (aged 12) takes a look at four classic games both in the air and on the ground

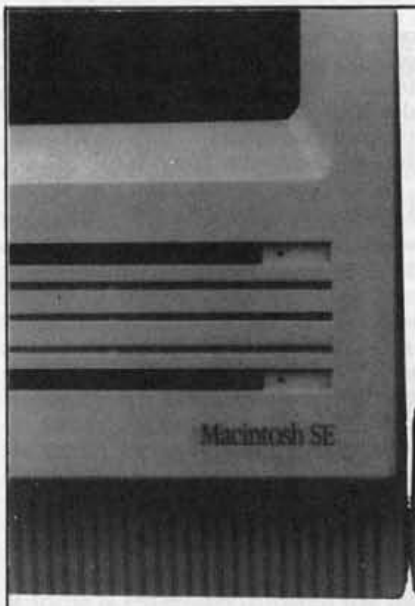
Sky Fox

Sky Fox is one of the best games out for the Apple with superb 3D. All the terrain is set in the background, mainly mountains and a sun and at the front of the screen coming for the mountains are tanks. These start out as blurs but as they come closer you can admire it. The tank is brilliantly drawn with a flag showing black and yellow colours. The aeroplanes are pretty well drawn but are not as good as the tanks but this is made up when they open fire, explosions appearing around the screen draining your energy. The motherships are and look terrible. They are just blurs even when they get closer. These motherships send down and launch tanks and planes.

The game starts when you choose which level you want to play. There are two choices you have to make one is if you want to be a cadet or something higher. When being a beginner you should play a cadet but when your a lot better you can play Ace of the base. The next thing you have to choose is whether you want tanks, planes or even both together. You can also have motherships put in if you want, there are 15 you can choose from altogether. Once you have done this a map will appear showing you where you are and where the enemy forces are. While on this chart you can zoom in on areas and also get your score and reports. While on this screen, you can try and press a key which will get you on to an old well known game (No, I shall not tell you what the key is!). After this screen you can go into your ship and blast off down the launch tube. The launch tube is a bit like Elite's but a bit better.

The ship itself has two cannons, 5 heatseeking missiles which can actually be controlled by you. On the ship you can also have the dreaded fuel gauge which goes down very slowly in this game (They must have found a way of conserving energy!). Also on the ship you have a shield which when destroyed, you blow up. The last thing on your ship is a scanner which shows whats approaching you. Once there on top of you, you can change to a target which shows you the range and where you are.

Once launched you come out onto the brilliant landscape which seems to scroll as you fly along. You then change to auto pilot who will find the enemy ships for you. Once found you can blast them out, as you do so small explosions are seen and heard. Your altitude stays at a hundred unless the joystick is moved up or down. When it is pulled back you go up. If you go up to 999 feet you will go through the clouds. Once through you will be attacked by the aeroplanes. These aeroplanes will make running raids.



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These raids are highly dangerous and you should make sure you attack from the rear or you are a gonner. When you push forward on the joystick you will go down when you reach 0 feet you will hear a scraping sound. Once you have wiped out the level you will be told your score how many tanks, planes and motherships were destroyed and also what your losses were.

When needing refueling you head towards the base which also is superbly drawn. You should go down to 0 feet and when your at or over the base reduce speed to 0 mph and you will enter the base.

This game is one of the best games out and as it is very cheap it is a bargain.

Aliens

As the cover says, "There are some places in the galaxy you don't go alone". This is very accurate for I wouldn't go to LU-426 the alien planet without the marines. This is where the story starts. You are different people in different levels. The first level you are the drop ship flying the marines through the turbulence that awaits. This is quite hard for the passage ducks and turns, but after a minute or so you land on the planet and deploy the marines. You now get an access code to this level. Level tow is an arcade escape maze guiding 4 marines to safety. The marines are in sublevel 3 of the Atnosphere processing plant. But you have found aliens, well they have found you! Guide them through the plant until you find the A.P.C. (drop ship). A captured marine can be saved by another marine if he is in the same room or passage.

The third level is where you have been cornered, but you have a chance to flee to safety. That is if you can hold them off long enough to cut your way through a steel door.

The aliens drop down from the ceiling and try to rush past you. But you can hold them off by using your flamethrower which can kill an alien if in range.

The fourth level is where you have to escape through an airduct maze and get to the drop ship. This level is like PacMan, so you will be chased by aliens.

The aliens have captured Newt (a girl found at the plant) and you have to save her. Guide your man through the passages until you find Newt. Rescue her and take her back to the drop ship fighting off aliens as you go. But one problem, you only have 17 minutes and only 99 shots on your laser. If you complete this level you can have a face to face confrontation against the mother queen. You have got the advantage, aPower Loader and an Exoskeleton that works like a fork lift truck. Using your joystick punch her until her power indicates all green (from red). Grab her and put her down through the airlock. You have completed the game.

The game at the start gives mission background and weapon identification chart. The game comes with a ten page exterminator guide giving you hints and tips on each level.

The graphics are good but on some levels could be better. The opening music also is good and the lasers fire great. This game is great fun for all different kinds of players, boxer fans, arcade fans, simulator fans and also PacMan fans.

Soko-Ban

This is probably the worlds hardest game, a real challenge for anyone. The game starts when you choose which elevator to take. The right takes you to the game and left to the edit page.

The edit page is where you can create 49 new levels all as challenging as the game. First build the walls and then the boxes, be careful though you don't put them in a place you cannot move them from. Then choose the room you want to store them in. Making sure there is enough room. Once finished you can have a practice or save it.

The game is fun to play and one level can take up to 30 mins to complete (including snacks). Guide your man through the rooms until you have moved all the boxes in the right place.

The graphics are good but could be improved. The sound is pathetic, partly because there isn't much. The game is okay but could be improved. The cover also does not show the games true self. The game is good for people who like strategy games but not for people like me who like fast action.

Elite

Elite is one of the longest held games and still one of my favourite. Elite is in a world of its own.

Elite is a simulation where you are flying your Cobra MKIII round hundreds of planets trying to reach a gold of Elite. A fighting rank is the highest order. You join the game after you have just passed your flight exams. You are issued with a Cobra MKIII trading ship with front pulse laser and cargo hold. Also you get 100 credits enough to buy some form of cargo ranging from food to narcotics (illegal drugs and tobacco). Once you have bought your cargo you can set a course for a certain planet within a 7 light year jump. Once made you can launch from your space station and start your trading.

5 - 4 - 3 - 2 - 1 - Hyperspace! You come out near to your planet and from there you can make several jumps towards the space, but if any other craft is in the area you will not be able to make the jump. The other crafts are usually bounty hunters and you can be attacked at any time during your trip. There are many kinds of crafts big and small and all want to make their status grow. Your status starts as harmless, but the more ships you destroy the higher your rating gets. Once docked you can sell your cargo. Soon you may have enough cash to buy some more equipment ranging from missiles to military bases and from docking camps to galactic hyperspaces. Your journey will come to terrible ends at some point being destroyed by bounty hunters or by police craft if you trade in illegal goods.

The graphics for this game are good but could be improved. The price value is reasonable at £19.99. Elite is a great game and will bring hours of fun.

Robert Hornby (aged 12)

All the games reviewd by Robert are availble from:

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Sky Fox (Apple II)	£14.95
Sky Fox (Macintosh)	£19.95
Aliens	£14.95
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Mac Inker

Dave Ward revives his ribbons in a cost conscious and quality control exercise

The MAC INKER

I purchased a dedicated MAC INKER for the ImageWriter II single coloured cartridge some 12 months ago, from MGA Microsystems. On hearing that I was about to present a review of this product John Gurr kindly offered to loan a kit that would allow my MAC INKER to re-ink the multi-coloured ImageWriter II ribbon.

MAC INKERS are available for just about all the printer ribbons on the market today. These can be purchased as dedicated units or one may purchase a Universal unit which allows one to purchase kits for most types of printer ribbons. This Universal unit is more expensive than a dedicated unit but becomes relatively cheaper if you are re-inking two or more different types of ribbons. Ink is available in a variety of colours in 2oz and pint polybottles.

First let's look at the dedicated MAC INKER for the ImageWriter II single colour cartridges. I only use black inked ribbons and therefore only use black ink to re-ink my cartridges, other coloured ribbons can be re-inked with the same or very similar coloured ink or you can purchase blank ribbons to 're-ink' to any available colour. The MAC INKER that I purchased consisted of a black plastic table with a motor mounted below, an inking capstan, a plastic syringe for transferring ink, a pint bottle of black ink and two instruction leaflets.

To re-ink a ribbon cartridge the table should be placed on a flat surface preferably covered with papers to absorb any stray ink! The motor drive spindle is extended through the table into a plastic plug that locates into the socket in the bottom of the ribbon cartridge. When the ribbon cartridge is located correctly it is kept static by small lugs that just fit into 'holes' in the top of the table. The ribbon should then be wrapped around the hollow 'capstan' that will hold the reservoir of ink. This 'capstan' has a small hole towards the bottom that allows ink to seep through into the fabric of the ribbon. The instruction leaflet tells one to place the cartridge on the table and then wrap the ribbon around the 'capstan' and then add the appropriate quantity of ink into the reservoir with the syringe. It is suggested that this reservoir is half-filled but the temptation is there to put in a little more - DON'T. The instructions are quite clear about putting too much ink into the reservoir but I suspect that most users will fall into this trap for the first few times. As soon as the motor is started the ribbon passes the hole in the 'capstan' at a rather ponderous rate but you will soon see a thin wet line of ink in the middle of the ribbon. Ribbon lengths vary but it takes between 25 and 30 minutes for the ribbon to do a complete circuit. At this stage you should remove the cartridge and any excess ink from the reservoir should be transferred from the reservoir back into the stock bottle. The instructions now give one three options as to how to proceed:-

1) Try using the ribbon immediately. This is not really recommended, though because the ink will not have spread evenly over the fabric to give even density of printing.
2) It is suggested that the ribbon be run through the MAC INKER for another 60 minutes with no ink in the reservoir as the motion of the ribbon tends to spread the ink out through the fabric. Using the ribbon immediately after this treatment gives reasonably dense even printing.
3) The recommended method, however, is to simply leave the cartridge for 24 hours and then use it. This seems to give the best results.

The above method involves one watching the MAC INKER whilst it is working which is rather tedious particularly if you wish to re-ink more than one cartridge. Many users get around this problem as follows:-

The instruction leaflet suggests that you mark a spot on the top of the ribbon with one of the white liquid correction fluids so that one can easily tell when the ribbon has completed a single revolution. If on the first occasion you re-ink a ribbon you can time the process so that on subsequent occasions when you re-ink that particular cartridge and you won't have to watch the ribbon revolve! Timers are available or could quite easily be made.

The colour MAC INKER

This cartridge contains a 22mm wide ribbon (compared with the 12.5mm wide single colour cartridge) divided equally into four coloured bands with yellow at the top followed with red, blue and black at the bottom. The MAC INKER kit for the multi-coloured ribbons consists of a special 'capstan', two black plastic rails that fit onto the base to give better stability to the cartridge and ancillary equipment such as four syringes and empty bottles. Bottles of each colour of ink will be required, too. The inks are available in 2oz and 16oz (pint) poly-bottles. Changing the single colour 'capstan' to the multi-colour 'capstan' is very easy. This 'capstan' has 4 small 'nipples' spaced accurately so that when the ribbon is threaded round it the 'nipples' touch each colour band centrally. This time instead of filling the inner part of the 'capstan' there are four aluminium reservoir (wells) above and behind the 'capstan' which are connected to the 'nipples' by narrow clear plastic pipes so the ink will be gravity fed. To reduce seepage of ink through the 'nipples' when the inker is not in use there are four aluminium pegs with pins at the bottom end which locate and block the small holes in the bottoms of the wells.

Setting up the multi-colour MAC INKER is quite easy.

1) First make sure that the pegs are in position in the wells to prevent ink seepage.
2) Use the syringes to transfer sufficient ink to just half fill each well.
3) Place the cartridge onto the base and wrap the ribbon around the 'capstan'
4) Make a mark upon the ribbon with white correction pen fluid to mark the start.
5) Start the motor and then gently pull out the pegs. Air locks in the pipes do not appear to be a problem.
6) Allow the ribbon to complete a single revolution which takes about 25 minutes and then carefully replace the pegs, stop the motor and remove the cartridge.

MGA Microsystems kindly supplied 8 used cartridges for testing. I tried five of these but was not impressed by the results, although these will be discussed below. Just in case I had was doing something wrong I asked William Watson to try the equipment on the remaining cartridges, plus some of his own; his results were much the same as mine.

Testing a cartridge immediately after inking does not, as expected, produce a good result as the inks have not had time to flow through the fabric. Even after 24 hours the results are not much better. However, the longer the cartridges are left the bet-

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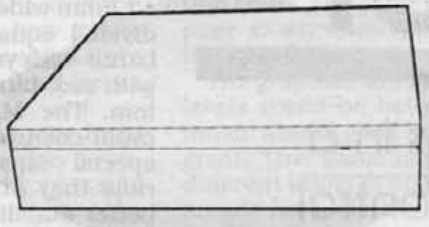

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VISA

MACINKERS are manufactured by :

Computer Friends, Inc.
Portland OR 97229

Telephone :- (503) 626-2291

Available from :

MGA Microsystems
Peartree
Appledore
Ashford
Kent TN26 2AR

Telephone 0233-83571

Prices:
Inking units:

2341M ImageWriter I/II Dedicated MACINKER	£42.00
Universal MACINKER base	£60.00
234U ImageWriter I/II adapter kit (for use with universal base)	£8.50
Multicolour adapter kit (use with universal base/2341M)	£40.00
Epson MX/FX/RX 80/100 adapter kit (for use with universal base)	£8.50
MAC INKER Ink :	
Black - 1 pint	£18.50
Any colour - 2oz	£3.00
Any colour - 1 pint	£22.50
Mulitcolour ink - set of 4 @ 0.5oz	£8.00

ter the results and in fact after 10 days or so produces passable colour print although they were a shade poorer than the new ribbons. One would, of course, expect problems to be compounded when dealing with four colours. For instance the inks flow at slightly different rates so that the density of ink in the ribbon bands may vary slightly thus producing subtle changes in the mixed colours such as green, purple and orange.

Working with the single colour MAC INKER is a relatively clean operation providing some care is exercised. However, we found the multi-colour MAC INKER to be rather messy and a supply of tissues or rags is recommended. The aluminium pegs are only 5mm longer than the wells; they should be much longer to prevent ink being transferred to ones fingers. The inks still seep albeit very slowly from the 'nipples' producing a multi-colour pool at the bottom of the 'capstan' this must be cleaned up before inking otherwise the black band will become multi-coloured! Ink which finds its way onto ones hands is easily removed by washing. Ink on clothes does not appear to be so easily washed off so care should be taken.

Ink conclusion!

Single colour ribbons re-inked with the MAC INKER are better than the originals. The job is simple, clean (if you want it to be so) and very accommodating of errors on the users' part. The only error one can really make is to over-ink the ribbon.

Multi-colour ribbons are, as might be expected, more difficult because one is really re-inking 4 parallel ribbons. The re-inked ribbons are of lower quality than the originals and the job although appearing as easy as the single colour ribbons is in fact rather messy and does not accommodate any user errors.

I would like to thank William Watson and also Jenny Green of MGA for the loan of the multi-colour adapter.

Dave Ward

C an example

This example accompanies the article on C by Dave Miller in the June Apple2000

The following example is taken from 'BCPL and C', by Glyn Emery, published by Blackwell Scientific Publications. It is a simple letter processor and illustrates simple file handling.

A standard letter, stored in the file 'letter' is to be adapted for sending to several recipients. Their names and addresses are stored in the file 'addresses'. Copies of the ammended letters are accumulated in the print file 'mail'. The back-slash character is used to mark insertion-points in the letter where the user can type in suitable text. The insertion is terminated with a press of the RETURN key (the carriage return is not inserted into the text). The final output is limited to 50 characters per line maximum via a simple wrap-around technique.

```
#include <stdio.h> /* include I/O library */

#define newpage    '\14' /* octal 14 = ASCII 12 = CTRL-L
*/
#define insertion '\\'   /* 1 back-slash */
#define wrap      50     /* wrap at 50 characters */
#define bell      '\7'   /* octal 7 - ASCII 7 = CTRL-G */

/* global variables */

static int linecount = 0; /* static var initialised to 0
*/
char   next[70];          /* 70-character string */
FILE   *addresses,        /* define file pointers for */
       *letter,           /* the three defined files */
       *mail;

output (c) /* integer function to output characters */
           /* note that 'int' assumed before func. name
*/
           /* if omitted */
char c; /* parameter */

/* send the chars to the output inserting required new
lines */

{

   /* increment line count and test against wrap, && =
'and' */
   /* set 'c' to new line if line count > wrap and c =
space */

   if (linecount++ > wrap && c == ' ') c = '\n';

   /* if 'c' new line then clear linecount */

   if (c == '\n') linecount = 0;

   /* return the result code from writing the character
to the */
   /* mail file */

   return (putc (c, mail));
}

more_text() /* copy letter upto insertion-point */
            /* note dummy parameter list */
{
   char c; /* local variable */

   do /* loop until insertion-point or end of file met
*/
   {

      /* read char into 'c' (via 'getc') from file and
return */
      /* 1 if insertion-point reached - note func. exits
here */

      if (c = getc (letter) == insertion) return 1;

      /* copy char to output file after checking for
wrap-around */

      putchar (output (c));

   } while (c != EOF); /* end at end of file */
}

main () /* main program - always called 'main' */
{
   char c; /* local variable */

   /* open the files via I/O library */
   /* 'fopen' opens the files and sets the file pointers
*/
   /* to address their associated file buffers */

   addresses = fopen ("addresses", "r"); /* read */
   letter    = fopen ("letter",    "r"); /* read */
   mail      = fopen ("mail",      "r"); /* write */

   /* read into the array 'next' the next item from the
address file */
   /* '(char *) next' addresses 'next', 'sizeof (next)'
returns the */
   /* size of 'next', '1' indicates that only 1 line is
to be read */
   /* the function 'fread' returns the number of charac-
ters read, 0 */
   /* means end of file */

   while (fread ((char *) next, sizeof (next), 1, ad-
dresses))
   {

      /* write out the address just read to the terminal
and to the */
      /* output file - discard any returned value from
function */
      /* 'fwrite' */

      fwrite ((char *) next, sizeof (next), 1, stdout);
      fwrite ((char *) next, sizeof (next), 1, mail);

      linecount = 0; /* zero line count */

      /* read in the letter and copy it to the output
file until an */
      /* insertion point be reached or until end end of
the letter */
      /* be reached */

      while (more_text()) /* note no parameters */
      {

         putchar (bell); /* insertion point reached -
ring bell */

         /* read a character from the keyboard and copy
this to the */
         /* output file until a new line entered */

         while ((c = getchar () != '\n') output (c);

      }

      putchar (putc (newpage, mail)); /* issue a form
feed */
      rewind (letter); /* reuse the letter for the next
address */
   }

   /* all done - close files and end */

   fclose (addresses);
   fclose (letter);
   fclose (mail);
}
```

Applied Apple Spreadsheeting

(3) Paul McMullin continues his series and creates an Electronic Calendar within a spreadsheet

In the previous article in this series we made heavy use of one of the built-in spreadsheet functions, @IF, to help us extract and organize data in tables. This time around we will be seeing how we can use a spreadsheet program as an electronic calendar, and to do this we will be relying on another built-in function, @LOOKUP.

Some spreadsheet programs have built-in functions for the specific purpose of handling date manipulations. Most spreadsheets for the Apple II do not. Date functions are lacking even on the recently announced version 3.0 of Appleworks. As always, though, where there is a will there is a way, especially if you have an Apple II ! By way of example let's take the case of a stud owner who has a list of the birth-dates of the year's crop of foals. Now for this particular breed of horse we will assume that there is an age limit for registering young foals. On the other hand it is much more efficient if he can wait do the job in batches. The owner wants a quick and simple method of taking the dates of birth and determining the last possible date for registration for each foal. If he can use the same technique to determine other key target dates (weaning, weighing, worming, vaccinating etc) then so much the better.

Fig.1 shows one solution to this problem as it would appear on the screen when in use. A real spreadsheet could be organized slightly differently. The cells with calculations might be placed on the same row as the data for the foal so that they could be easily replicated down the sheet to provide the result for a large number of animals. Once the basic technique has been mastered it could easily be adapted to provide a series of different target dates for the rearing of the foal, all on one report. Hopefully this has got you interested in how this is achieved even if you do not own a stud!

The simplest way of achieving our aim is to use a "Lookup Table". The usual example of a use for such tables is in checking freight or postage rates because these are often not linear but "jump" at discrete intervals. The same is true for the days within the months of the year. There is no direct linear relationship between months and days since the start of the year. This is because of the irregular occurrence of 28,30,and 31 day months. Figure 2 shows a lookup table which can conveniently be placed at the top of a spreadsheet. Cells in both row 4 and row 5 include references to cells C4 and C5 to take into account situations where the current or next year are leap-years. Cells from column G up to column R have formulae consisting of the value shown +C4 (current year). Cells from row S over have the day sum +C5 (following year). The actual formulae used to determine whether the current or following years are leap-years are :

>D4:@IF(I18/4=(@INT(I18/4)),1,0) (current year)

>D5:@IF((I18+1)/4=(@INT((I18+1)/4)),1,0) (following year)

In other words if the current year shown in cell I18 is divisible by 4 with nothing over then its a leap-year. For next year just add 1 to cell I18.

See Fig 2.

So now we have our calendar lookup table ready. Remember that once it is prepared it can be used in any number of similar spreadsheet applications. Now we can do our desired calculations using fairly simple formulae in 4 easy steps:

1. Calculate the number of days from the beginning of the current year to the start date (birthday) (cell K20). The formula is @LOOKUP(G18,E4...P4) +H18. We are looking up the current month in row 4 and from it obtaining the number of days elapsed since the new year at the start of the month. Then we simply add the day of the month as shown in cell H18.
2. Add the number of days of the desired interval to the number calculated in step one to find the number of days elapsed from the beginning of the current year to the desired date (cell K21). The formula is +K20+J15 and is self explanatory.
3. Lookup the month of the desired date (cell K23). The formula is @LOOKUP(K21-1,E6...AB6).

Fig. 1 The data for one foal are in row 18, the desired interval for calculation is in cell J15, intermediate calculations are shown in cells K20 and K21, and, finally the desired month and day are shown in cells K23 and K24. In this case a foal born on April 19th 1989 would be 105 days old on August 2nd.

```
    ====F=======G=======H========I=======J=======K===
 15|Registration by day     ---->      105
 16|
 17|Foal No  Month     Day    Year
 18|    122       4      19    1989
 19|
 20|                Start Days since Jan 1      110
 21|                End Days since Jan 1        215
 22|
 23|                End Month                     8
 24|                End Day                       2
 25|
```

Fig. 3 In this case a foal born on December 10th 1989 would be 120 days old on April 9th 1990.

```
    ====F=======G=======H========I=======J=======K===
 15|Registration by day          120
 16|
 17|Foal No  Month     Day    Year
 18|    130      12      10    1989
 19|
 20|                Start Days since Jan 1      344
 21|                End Days since Jan 1        464
 22|
 23|                End Month                     4
 24|                End Day                       9
 25|
 26|
```

Fig.2 Calendar lookup table. Rows 4 and 7 have simply the months 1 to 12 (with lateral repetition in row 7). Rows 5 and 6 have the days elapsed since the beginning of the year at the beginning of each month.

```
  =C=D=E=F=G=H=I=J=K=L=M=N=O=P=Q=R=...=AA=AB=AC=
3|  Calendar Lookup Table
4| 0   1   2   3   4   5   6   7   8   9  10  11  12
5| 0   0  31  59  90 120 151 182 212 243 273 304 334 365 396...669 699
6|     0  31  59  90 120 151 182 212 243 273 304 334 365 396...669 699  0
7|     1   2   3   4   5   6   7   8   9  10  11  12   1   2... 11  12  0
```

Essentially we are doing the opposite conversion to that done in step 1.

4. Calculate the day number of the desired date (cell K24). The formula is K21-@LOOKUP(K21-1,E5...AB5). We are looking up the number of days in previous months then subtracting this from the exact number of days desired to find the remainder i.e. the day of the month which we seek.

Note that the range specified in the @LOOKUP formulae for steps for 3 and 4 go right out to column AB. This is to allow for intervals which span a year end. Just to show that this does work Fig. 3 shows the calculation done with a December-born foal (a rare occurrence incidentally!). If it were anticipated that intervals spanning two year-ends could be needed the lookup table would need to be extended for another 12 months, including a cell to check whether there will be a leap-year in 2 years time. Just to check whether you have fully mastered this technique why don't you try to develop a spreadsheet to calculate the number of days between two known dates? See Fig 3.

That is enough about dates for now. As an added bonus today we are including two tables comparing some of the major spreadsheet programs used on the Apple II. Some of these programs are no longer on sale but all are still in use. This summary may be incomplete and have some inaccuracies, however as this sort of detailed comparison is rarely provided in reviews so it seeems useful to provide it here. The information on Appleworks is correct for versions up to 2.1. The recently announced version 3.0 will, when it arrives, have many more functions (financial, logical, and trigonometric), 9999 rows, better support for DIF file handling, and easier importation and transfer of data between spreadsheets.

Finally I would like to tie up a loose string left in the first article in this series (Apple 2000, June 1989). People who wish to write their own programmes to read or write files in DIF format were referred to a publication which is now out of print. There is in fact a reprint of a very good article on this subject in the April 1989 issue of A2-Central (erstwhile Open-Apple).

Paul McMullin

Table 1a. Comparison of a number of spreadsheet programs. Programs included are Visicalc IIe (VI), Standard (VI84) and Advanced Visicalc (VI/A) from "The Visicalc Package", IACalc (IAC), Mousecalc (MSE), Supercalc 3a (SC), and Appleworks (AW). - Built in functions.

Program Function	VI	VI84	VI/A	IAC	MSE	SC	AW
ABS(olute)	*	*	*	*	*	*	*
ACOS(ine)	*	*	*			*	
AND	*	*	*	*	*	*	
ASIN(e)	*	*	*			*	
ATAN(gent)	*	*	*			*	
AVERAGE	*	*	*	*	*	*	*
COLUMN				*?	*		
CHOOSE	*	*	*	*	*		*
COS(ine)	*	*	*			*	
COUNT	*	*	*	*	*	*	*
ERROR	*	*	*	*	*	*	*
EXP(e to a power)	*	*	*	*	*	*	
IF	*	*	*	*	*	*	*
FALSE	*	*	*	*	*	*	
INT(eger)	*	*	*	*	*	*	*
ISDATE						*	
ISERROR	*	*	*	*		*	
ISNA	*	*	*	*		*	
ISTEXT						*	
LABEL			*	?	?	?	?
LN(natural log)	*	*	*	*	*	*	
LOOKUP	*	*	*	*	*	*	*
LOG10	*	*	*	*	*	*	
MAXIMUM	*	*	*	*	*	*	*
MINIMUM	*	*	*	*	*	*	*
MOD						*	
NA(not available)	*	*	*	*	*	*	*
NOT	*	*	*	*	*	*	
NPV(net present val)	*	*	*	*		*	*
OR	*	*	*	*	*	*	
PI	*	*	*	*	*	*	
RANDOM						*	
ROUND				*	*	*	
ROW				*?	*		
SIN(e)	*	*	*			*	
SQRT(square root)	*	*	*	*	*	*	*
SUM	*	*	*	*	*	*	*
TAN(gent)	*	*	*			*	
TRUE	*	*	*	*	*	*	

Table 1b. Comparison of a number of spreadsheet programs - general features. Programs included are Visicalc IIe (VI), Standard (VI84) and Advanced Visicalc (VI/A) from "The Visicalc Package", IACalc (IAC), Mousecalc (MSE), Supercalc 3a (SC), and Appleworks 3.0 (AW).

Program	VI	VI84	VI/A	IAC	MSE	SC	AW
DATES			*			*	
GRAPHS					*	*	
SORTING						*	
DIF FORMAT	*	*	*	*	?	*	*
COLUMNS	64	64	64	64	64	63	127(60)
ROWS	256	256	256	256	256	254	999
Command Files			*			*	
BLOCK OPERATIONS			*			?	*
ALL IN MEMORY	*	*		*			
K available (128)	32	96	64	96			
COMMAND KEY	/	/	/	/			OA
Operating system (D=DOS 3.3 P=Prodos)	D	D/P	D/P	D	P	P	P

Note : Appleworks may be loaded completely into memory depending on the presence of expansion boards and appropriate software. Although the spreadsheet has up to 127 columns, only 60 may have cells in use.
* Appleworks is a registered trademark of Claris Corp, and Visicalc is a registered trademark of Lotus Development.

The Fidelity ChessMaster 2100

Dave Ward finds himself in front of the chessboard again and looks at the IIgs version of ChessMaster

Over the years many chess programs have appeared for the Apple // range of computers & although most of them would work on the Apple IIgs none, to the best of my knowledge, have been specially designed for that machine; until now. The Fidelity Chessmaster 2100 is an incarnation of The Chessmaster 2000, which I reviewed in the February 1989 issue of Apple 2000 magazine, which makes good use of the Apple IIgs graphic and sound.

The Package

The Fidelity Chessmaster 2100, arrives in a cardboard box, containing two 3.5" diskettes a small 12 page manual describing all the features of the program and a small 56 page book describing the history of chess and chess machines. The book also contains descriptions of all the games supplied with the program and some chess lessons for beginners. The Program disk contains the program and necessary files associated with the program in a folder (subdirectory). Also on this diskette is ProDOS 16 version 1.6 to make the diskette bootable. The Games disk contains two folders one with 110 games and problems the other blank ready to accept your own games and problems. The two diskettes are copy-able and the manual suggests, as is normal good practice, to copy them before doing anything else. The Fidelity Chessmaster 2100 can easily be copied to a hard-disk, which the manual describes, this is why all the necessary files are in a folder on the diskette.

Memory Requirements

To run the program you'll need an Apple IIgs with at least 512K of memory (that is the expansion card must have at least 256K bytes on board). To launch the game from the Finder, however, you'll require at least 512K bytes on your memory expansion card.

I have run the program by booting copies of the Program disk, from a hard-disk and by launching it from the Finder and ProSel-16. The game runs under ProDOS 16 version 1.6 and GSOS perfectly except it takes an age to load (please inculpate to operating system for this). After a while a super-res title screen appears and a digitised voice intones "I'm the Chessmaster - want to play a game?" a few aeons later a dialog box appears on the screen requesting some detail of one of the great games from the manual; this is a currently popular method of 'protection'. At least one of these questions (1965) is at variance to the book (1964) but this no real problem. You get three different tries to get a correct answer. Only if you get a correct answer will you be allowed to play the game and the default board then appears on the screen. This screen actually consists of a window with a menu bar and the square chessboard, which is the largest possible, is left justified, within the window.

The Display

The default 2-dimension board is made up of green and white squares with 'white gold' and bronze pieces; although a rather strange combination of colours I find this setup gives very little eye strain. There are two other options available :-

1) 3-dimension board which uses the same colours. This board looks quite good but even with the extra resolution of the super-res screen the board still looks a little cluttered.
2) War game shrinks the board to half its area so that there is space for other windows showing such things as the moves so far, what CM2100 is thinking and captured pieces etc. The small board is very good considering its size but I choose to use it most of the time as the extra information is useful.

There is an option to change the colours of both pieces and squares to any you want and this is achieved using three vertical slider controls (scroll bars) for red, green and blue. Two default options are supplied, the above and 'metal pieces' silver and dark yellow pieces on red and dark grey squares! That's not all since the manual explains how you can create your own custom pieces if you have PaintWorks, for instance, and use those instead of the Staunton set supplied.

Playing The Game

Playing the game couldn't be simpler: you can enter the moves from the keyboard as in Chessmaster 2000, for instance, E2E4 (to move the kings pawn from rank2 to rank4) etc. The Fidelity Chessmaster 2100 also allows one to click and drag the piece you wish to move. Only legal moves are allowed, though. Beginners may choose a special 'teaching' option; when you click on a piece or enter its coordinates from the keyboard all the legal moves of that piece are displayed, as blue shadows with possible captures shown in red shadows, on the standard green and white board.

You can choose from 14 levels of play and enter your own 'user-defined' level. Some predefined options are 'Newcomer' which makes The Chessmaster play at it easiest; 'Opening book' which allows one to make The Chessmaster forget it opening book and an 'Easy mode' which stops The Chessmaster 'thinking' whilst you consider your move. The Fidelity Chessmaster 2100 also has a book of opening moves and the advertisement on the box claims 150,000 positions, however, I simply don't believe that and think the number is nearer 3000. Anyway the file containing the book moves is only 7K bytes in size; just try representing 150,000 positions in that tiny space!!

The Fidelity Chessmaster 2100 plays a very good game, in my opinion, and is at least a good as any of its competitors. Only having one Apple IIgs I was unable to pit the program against the Apple // competition, though. Having played the program on many occasions and at many levels I believe it plays a very good game but have found that there appears a very occasional 'bug' that makes the program produce out-of-context poor moves.

Features

There are a vast amount of features in this program a few of which will be described below :-

The Fidelity Chessmaster 2100 uses the Apple IIgs clock and so timings are generally very accurate. A variety of time controls are available from lightning games to tournament play and a user defined mode.

The board setup procedure is completely changed from The Chessmaster 2000. The Fidelity Chessmaster 2100 now allows one to drag pieces all over the board and to remove them from the board. On the right-hand side of the board is a 'palette' of pieces that can be dragged onto the board. To save time there are facilities to clear the board or setup the initial position; you can't remove the kings from the board, however.

The Fidelity Chessmaster 2100 lets you annotate all or any move of a game if you wish. When you invoke the annotation a window appears into which you can insert text. This window can be zoomed and scrolled.

There is even an on-line HELP facility in The Fidelity Chessmaster 2100 ! One way of invoking this is to press open-apple+? (OA-?) when the cursor changes from the hand to a large question mark. If you then select any item from a 'pull-down' menu you will get a dialog box with help text within it. Another is OA-H but this 'smart' method does not always find the help screen you really want.

An amusing feature invoked with OA-P produces a screen to give the appearance to anybody passing-by that you are entering an Applesoft program! Hitting any key takes you straight back to the chess.

Solving Problems

Few purchasers of a chess program do so for its chess problem solving capabilities, however. The Fidelity Chessmaster 2100 is quite good at solving the common mate-in-x moves problem. On average it solves 2-movers in 10 seconds and three movers in 200 seconds.

The Fidelity Chessmaster 2100 was used to solve a four move chess problem by Dr. A Mandler published in Parallele 50 in 1950. The Fidelity Chessmaster 2100 took 2346 seconds in finding the key-move (A4-A1)!

White : B(d7) K(e5) R(a4) B(e1)
Black : K(d3) P(g3)

Collosus 4.0 on an Apple IIgs took just 370 seconds.

Operating Speed

The Fidelity Chessmaster 2100 is slow and is not perfect at solving chess problems; it will on the odd occasion refuse to find the key-move choosing an absurd line in a greater number of moves. Another fault is that it will only find one key-move. Chess problems are designed to have only one solution, of course, but faulty ones can have others which have been termed 'cooks' and you want to find those, too.

The Fidelity Chessmaster 2100 appears to use much of the game-playing code that was used in The Chessmaster 2000 which I reviewed some time ago. The draw by repetition of position seems to work correctly now but the '50 move rule' is still wrong and The Fidelity Chessmaster 2100 forces a draw after each player has played 25 moves each with not pawn move or piece taken during those 50 plies (25 moves).

Conclusion

In conclusion The Fidelity Chessmaster 2100 is an excellent opponent, uses the Apple IIgs graphics and sound very well and has a myriad of features; I really enjoyed playing this program.

Dave Ward

info

Product : ChessMaster 2100
Publisher : Software Toolworks
Available from :
MGA Softcat
Pear Tree
Appledore
Kent TN26 2AR
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Price : £34.95 inc VAT

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Programmer's Introduction to the Apple IIGS

Alan Boyle reviews this companion volume to the Apple Programmer's Workshop

I've owned an Apple IIGS for over two years now, after having owned a IIe for the previous two years. On the IIe I rapidly gave up on Applesoft Basic, moving over to the more sophisticated Apple Pascal system. On the IIGS I got hold of TML Pascal as soon as it came out, and began trying to fathom the new areas of Desktop Applications and the built-in Toolbox routines. This is where my real problems began. Apart from TML Pascal v1.0 being bug-ridden (version 1.5 is much better), there was just no readily available and understandable literature on the Apple IIGS Toolbox routines and how to use them. The example programs provided by TML are rather limited, and the code is not adequately explained. Eight months ago the Apple IIGS Toolbox manuals appeared in my local library. I rushed off to borrow them, hoping to find the answer to my problems. However, these two volumes are quite clearly technical reference volumes and not "hands-on guidebooks". Fine for finding out what all the parameters are for each tool, but not for learning how to use them (not for me anyway). A few months ago, Irene Flaxman slipped a copy of the Programmer's Introduction into my hands, at a local Apple2000 meeting in Liverpool, and asked if I could "have a look at it". Was this the book I had been waiting for? Some comments on that later. First I shall give an outline of the contents.

The Technical RoadMap

The Programmer's Introduction is one of two introductory IIGS manuals, the other being the Technical Introduction. A further ten or so more specific technical manuals are now generally available which cover hardware, firmware, the Toolbox, ProDOS8, ProDOS16, APW C, and APW Assembler (APW means Apple IIGS Programmer's Workshop). Apple state in the preface that Programmer's Introduction "will help you get started" with concepts and guidelines but "it is not a complete course in programming". Further programming information should be sought in the more specialised manuals.

The Chapters

The main part of the book comprises 9 chapters. In addition there are 7 appendices, a glossary, bibliography, index section, and a 3.5" disk containing TML Pascal, APW C and APW Assembler source code of an example program called HodgePodge; a desktop application which allows fonts and stored picture files to be viewed in resizable, overlapping windows.

Chapter One introduces Apple IIGS concepts in 27 short pages: the main hardware features, writing desktop applications, the Apple IIGS Toolbox, memory segmentation and APW.

Chapter Two (32 pages) is meatier, giving an overview of the HodgePodge and introducing code for starting up and closing down the Toolbox. The overview only discusses the TML Pascal version of the code, but does this very well with good annotation.

Chapters 3 to 5 give more specific information on using the toolbox. Chapter three (45 pages) discusses (again) how to startup the tools, how to handle events (mouse, keyboard etc.), as well as introducing how to draw on the IIGS screen with QuickDraw II. Chapter four (37 pages) gives information on how to create windows, dialog boxes and alerts. This section provides more detailed discussion of actual code (TML Pascal again) than the previous chapter and is better for it. Chapter five (39 pages) considers how to set up a pull-down menu system complete with desk accessories under the apple menu icon. It also considers communication with disk files and the printer, which is generally well done with TML Pascal code using the Standard File and Print Manager Tool sets. However, communicating with the serial ports and the Apple Desktop Bus is only briefly mentioned and no code is presented. Making sounds is discussed in two pages with no examples, but a reference to the Toolbox Reference manual (which, in my opinion, will not help the introductory programmer at all). The remaining main tool sets are skipped through in even more cursory fashion: including integer and floating point arithmetic, battery backed RAM and the control panel, accessing the mouse etc.

Chapter six (33 pages) covers the wonders of the Memory Manager, describing how it moves data in and out of, and around, memory. Examples are discussed for loading and saving disk files under ProDOS16 and TML Pascal. A small assembly routine for de-referencing a handle (a pointer to a pointer) is also presented.

Chapter seven (35 pages) takes the reader through the process of creating a program, in this case an APW assembler program. It discusses the concepts of an editor, a compiler, a linker and a debugger, principally in relation to APW, and what action to take if your program gets large (segment it!).

Chapter eight (19 pages) gives some guidelines on what type of program to write (eg. program shells, desk accessories, interrupt handlers), and whether to make it self-booting or restartable, for example. It also provides a list the file types associated with different programs.

Chapter nine (5 pages) briefly discusses how HodgePodge might be modified, re-iterates some of the important design considerations for Apple IIGS applications, and gives some contact addresses (all in the USA).

The Appendices

Appendices A and B (both 8 pages) consider conversion of Macintosh and Apple II applications respectively. Appendix C (4 pages) lists the files on the Apple IIGS system disk (Prodos16 not GS/OS). Appendix D (9 pages) lists all the source files for the sample application HodgePodge, and discusses some of its error handling routines for checking tool and disk errors. Appendices E, F and G (65, 35 and 33 pages) provide source code listings of HodgePodge in assembler, C and pascal respectively. All three sets of listings are also provided on a 3.5" disk. There is then the usual glossary of terms, a bibliography and an index.

Conclusion

Well is this book the answer to my prayers? The answer has to be "no". My reasons for saying this relate primarily to programming in pascal, partly because that is where my experience lies, but also because the main body of the book clearly concentrates on the pascal programming language. I have found some parts of it useful, particularly the bits on using the Standard File routines and loading files into RAM for faster access, and the book has helped out on a number of TML Pascal problems. However, the things which I have found really problematical (and still do), such as using the Text Tool Set for reading and writing the modem port, are still problematical because the book does not address them. A further problem with the book for the TML Pascal user

is that, although it was published after the TML Pascal manual, it refers to a pre-release version of TML Pascal! Hence, things in HodgePodge are not quite the same as in the released version of TML Pascal. A version of HodgePodge was released with TML v1.0, but though updated, this version does not have all the same facilities as the version in the Programmers' Introduction. Interfaces to the Toolbox are different, as are the names of procedures used to implement ProDOS16 routines. This is not a problem for someone familiar with TML, but beginners may find the differences confusing. On the other hand, if they want to program the IIGS in TML Pascal then this book would be useful. It would improve the learning curve, mainly because the TML Pascal manual is fairly dreadful. Anyone with some experience of TML Pascal will probably find the book disappointing. Similarly, anyone looking for help with assembler of C will find this book very disappointing. These two programming languages are only briefly discussed.

Price

This book is available direct from Apple2000 for an inclusive price of £33.07. Much of what is in the book is given in other books in the reference manual series (eg. Apple IIGS concepts, facilities in APW). Appendices E, F and G occupy 135 pages of a 491 page book. These are simply listings of a program supplied on disk. Many of the important routines are also repeated in the main body of the book. Thus, a lot of valuable page space is wasted. Instead of concentrating on repetition and padding to produce a near 500 page book, I feel the authors should have discussed more code to give the beginner a real helping hand. What the IIGS really needs is a good hands-on, problem-solving oriented book of the type readily available for the good old Apple II. Anyone out there writing one?

Postscript

Since writing this review I learn that TML Systems announced TML Pascal II on May 19, 1989. This version will (when available, mine is on order) work under GS/OS 5.0. The main new features are new toolbox interfaces for GS/OS 5.0, support for new Resource Manager and TextEdit tool sets in the GS/OS 5.0 toolbox (much easier to start up tools and manage windows, dialogs, menus etc.), a new editor (unlimited windows and no 32kb limit for open files), and a new manual. The book reviewed above knows nothing of GS/OS and related developments. Perhaps it is best to wait for a second edition?

Alan Boyle

SoftCat Corner

POINT-TO-POINT (communications software)

Further to my mention of VT-52 Terminal Emulation software on pp15 Aug'89 Apple 2000, Malcolm may be interested to know about P-T-P which is some £15.00 cheaper than ProTERM.

Now available from Beagle, (formerly from Pinpoint), at £85.00 WYSIWYP. Full support for //c & GS built-in ports and including VT-52 terminal emulation all in an Appleworks-like environment. Automatically uses Apple or Applied Engineering type RAM cards to capture up to 5Mb incoming text at RAM speed! Includes 3.5/5.25 disks. (Prospective reviewers' inquiries invited).

NEW PRINT SHOP

Broderbund have announced a new version of Print Shop which sports a new user interface and higher-resolution graphics. An on-screen preview now makes it easier to save paper by eliminating draft print-runs. Like Print Magic, New Print Shop allows you to use more than one graphic and more than one font in a single creation. Additionally; these elements may be placed anywhere on the page. Calendar creation has been included which allows daily, weekly, monthly and yearly output.

Three new clip art disks are to be made available (Sampler, Party, and School & Business Editions) at £19.95 each. A New Print Shop Companion is also slated for eventual release.

At £39.95 WYSIWYP, New Print Shop is more expensive than Print Magic, but here it is anyway, it after all does fulfill many a Print Shop user's wish-list...

Please note that upgrades to the new version will only be available direct from Broderbund at $20 plus shipping, MGA cannot handle these upgrades.

(Prospective reviewers' inquiries invited).

COPY II+ Plus v8.4

Copy II + forges on to version 8.4, still costing just £39.95 WYSIWYP. Now includes 3.5" & 5.25" bit copiers for making archival copies of copy-protected programs. Other features include fast one pass single-drive copying (with suitable RAM card), full use made of Apple 1Mb RAM card in IIgs, automatic conversion of DOS 3.3 files to ProDOS (& vice versa), and a host of other utilities including delete/undelete files, map disk usage, format DOS 3.3 or ProDOS disks, copy files or disks, (including copying PASCAL, LOGO and CP/M disks), view & print text files, verify disks, catalog DOS 3.3 & ProDOS (AND Apple // / SOS) disks & subdirectories. Also contains disk drive diagnostics for checking & adjusting drive speeds. (Prospective reviewers' inquiries invited).

MultiScribe v3.0 UPGRADE

If you are interested in upgrading your old v2.0 to the later v3.0 which includes the built-in spell-checker, MGA will effect this for you for £39.95 WYSIWYP. This price is part-exchange-based and dependant on your provision of a full set of original v2.0 disks together with the complete manual.

"NEW" BEAGLE BROS. PRODUCTS

As Beagle have obtained most of Styleware's products, users of MultiScribe will be pleased to know that support will continue. Most the remainder of Styleware's packages have now been rereleased as follow:-

BEAGLEWRITE GS (Multiscribe GS)	RRP	£99.95	MGA	£89.95
BEAGLEDRAW (TopDraw)		£89.95		£79.95
BEAGLE BROS. GS DESK ACCESSORIES (DeskWorks)		£59.95		£49.95
BEAGLE BROS. CLIP ART / VOL.1 (Styleware Clip Art)		£49.95		£34.95
BEAGLE BROS. FONT LIBRARY / VOL.1 (Styleware Fonts)		£49.95		£34.95
BEAGLEWRITE (MultiScribe)		£79.95		£69.95
BEAGLEWRITE DESK ACCESSORIES (Multiscribe DAs)		£39.95		£34.95
BEAGLEWRITE PICTURE MANAGER (Multiscribe PM)		£39.95		£34.95
BEAGLEWRITE FONTPAKS / VOLS.1 & 2 (each) (Multiscribe FPs)				£39.95

Please note that the BW FPs contain 40 fonts each, whereas their Multiscribe predecessors only contained ten. There were eight MS FPs, but now they are incorporated into the two BW FPs.

All MGA prices are WYSIWYP (What You See Is What You Pay).

Jon Gurr (Apple II Product Manager, MGA SoftCat)

ProDOS Filetypes

We publish a complete list of known ProDOS filetypes

File Type	Aux Type	Mnemonic	Description
$00	$0000	UNK	Typeless file
$01	$0000	BAD	Bad block file
$02	$0000	PCD	Apple /// Pascal code file
$03	$0000	PTX	Apple /// Pascal text file
$04	$0000	TXT	Standard ASCII text file
$05	$0000	PDA	Apple /// Pascal data file
$06	$0000	BIN	Standard binary file
$07	$0000	FNT	Apple /// font file
$08	$0000	FOT	ProDOS / SOS graphics file
$08	$4000	FOT	Packed Apple II hi-res graphics screen
$08	$4001	FOT	Packed Apple II double hi-res graphics screen
$09	$0000	BA3	SOS Business Basic Program
$0A	$0000	DA3	SOS Business Basic data file
$0B	$0000	WPF	SOS Word processor file
$0C	$0000	SOS	SOS System file
$0F	$0000	DIR	ProDOS Subdirectory file
$10	$0000	RPD	Apple /// RPS data file
$11	$0000	RPI	Apple /// RPS index file
$12	$0000	AFD	Apple /// AppleFile discard file
$13	$0000	AFM	Apple /// AppleFile model file
$14	$0000	AFR	Apple /// AppleFile report format file
$15	$0000	SCL	Apple /// Screen library file
$16	$0000		PFS:Document
$16	$0001		PFS:File Document
$16	$0002		PFS:Write Document
$16	$0003		PFS:Graph Document
$16	$0004		PFS:Plan Document
$16	$0016		PFS:Internal Data
$19	$0000	ADB	Appleworks database file
$1A	$0000	AWP	Appleworks word processor file
$1B	$0000	ASP	Appleworks spreadsheet file
$20	$0000		Apple /// Desktop Manager MonthsAppt file
$21	$0000		Apple /// Desktop Manager DaysAppt file
$22	$0000		Apple /// Desktop Manager GraphixData file
$23	$0000		Apple /// Desktop Manager ScreenData file
$24	$0000		Apple /// Desktop Manager Mgr
$25	$0000		Apple /// Desktop Manager Opt file
$26	$0000		Apple /// Desktop Manager NotePad file
$27	$0000		Apple /// Desktop Manager SubLoad file
$28	$0000		Apple /// Desktop Manager MacroFile file
$29	$0000		Apple /// SOS Dictionary file
$2A	$0000		Apple II source code file (generic)
$2B	$0000		Apple II object code file (generic)
$2C	$0000		Apple II interpreted code file (generic)
$2D	$0000		Apple II programming language data file (generic)
$42	$0000		File Type Names
$50	$0000		Word processor file (generic)
$50	$8010		Word processor file (Appleworks GS)
$51	$0000		Spreadsheet file (generic)
$51	$8001		Spreadsheet file (Digit)
$51	$8010		Spreadsheet file (Appleworks GS)
$52	$0000		Database file (generic)
$52	$8010		Database file (Appleworks GS)
$52	$8011		Database file (Appleworks GS report format)
$53	$0000		Object-oriented graphics file (generic)
$53	$8010		Object-oriented graphics (Appleworks GS)
$54	$0000		Desktop publishing file (generic)
$54	$8010		Desktop publishing file (Appleworks GS)
$54	$DD3E		Desktop publishing file (Medley)
$55	$0000		Hypermedia file (generic)
$55	$8001		Hypermedia file (Tutor-Tech)
$55	$8002		HyperStudio Document
$56	$0000		Educational data file (generic)
$56	$8001		Educational data file (Tutor-Tech scores)
$57	$0000		Stationary file (generic)
$58	$0000		Help file (generic)
$59	$0000		Communications file (generic)
$59	$8010		Communications file (Appleworks GS)
$5A	$0000		Application configuration file (generic)
$5A	$8001		Master Tracks Jr. Preferences
$5A	$8010		Application configuration file (Appleworks GS)
$5B	$0000		Animation file (generic)
$5B	$8001		Cartooners Movie
$5B	$8002		Cartooners Actors
$60	$0000	PRE	PC Transporter ProDOS pre-boot driver
$6B	$0000	BIO	PC Transporter BIOS and drivers
$6D	$0000	DVR	PC Transporter device driver
$6E	$0000		PC Transporter pre-boot
$6F	$0000	HDV	Pc Transporter MS-DOS hard disk file
$A0	$0000	WP	WordPerfect IIgs document file
$A1	$0000	MAC	WordPerfect IIgs macro file
$A2	$0000	HLP	WordPerfect IIgs help file
$A3	$0000	DAT	WordPerfect IIgs data file
$A4	$0000	VRT	WordPerfect IIgs virtual memory file
$A5	$0000	LEX	WordPerfect IIgs dictionary file
$AB	$0000	GSB	GS Basic program
$AC	$0000	TDF	GS Basic tool definition file
$AD	$0000	BDF	GS Basic data file
$B0	$0000	SRC	APW source file (generic)
$B0	$0001	SRC	APW source file (text file)
$B0	$0002	SRC	APW source file (6502 assembler)
$B0	$0003	SRC	APW source file (65816 assembler)
$B0	$0004	SRC	APW source file (Basic)
$B0	$0005	SRC	APW source file (ORCA/Pascal)
$B0	$0006	SRC	APW source file (shell batch file)
$B0	$0007	SRC	APW source file (Byte Works Small C)
$B0	$0008	SRC	APW source file (Byte Works C)
$B0	$0009	SRC	APW source file (Byte Works Basic)
$B0	$000A	SRC	APW source file (APW C)
$B0	$000B	SRC	APW source file (APW Pascal)
$B0	$000C	SRC	APW source file (APW command-processor window)
$B0	$0015	REZ	APW Rez source file
$B0	$001E	SRC	APW source file (TML Pascal)
$B1	$0000	OBJ	APW object file
$B2	$0000	LIB	APW library file
$B3	$0000	S16	GS/OS / ProDOS 16 system file
$B4	$0000	RTL	GS/OS / ProDOS 16 run-time library
$B5	$0000	EXE	GS/OS / ProDOS 16 shell application
$B6	$0000	STR	GS/OS / ProDOS 16 permanent initialization file
$B7	$0000	TSF	GS/OS / ProDOS 16 temporary initialization file
$B8	$0000	NDA	Apple IIgs New Desk Accessory
$B9	$0000	CDA	Apple IIgs Classic Desk Accessory
$BA	$0000	TOL	Apple IIgs disk-based toolset
$BB	$0000	DRV	Apple IIgs device driver
$BB	$0001	DRV	Apple IIgs printer driver
$BB	$0002	DRV	Apple IIgs interface driver
$BB	$0003	DRV	Apple IIgs AppleTalk driver
$BB	$0300	DRV	Apple IIgs MIDI driver
$BC	$0000		GS/OS ProDOS 16 generic load file
$BD	$0000		GS/OS File System Translator
$BE	$0000		ProDOS 16 load file
$BF	$0000	DOC	ProDOS 16 document file
$C0	$0000	PNT	Compressed super hi-res picture (PaintWorks 1.0)
$C0	$0001	PNT	Compressed super hi-res picture (PackBytes/Eagle)
$C0	$0002	PNT	Compressed super hi-res picture (Apple Preferred)
$C0	$0003	PNT	Compressed super hi-res picture (Object-oriented)
$C1	$0000	PIC	Uncompressed super hi-res image
$C1	$0001	PIC	Uncompressed QuickDraw II picture
$C2	$0000	ANI	Paintworks animation file
$C3	$0000	PAL	Paintworks palette file
$C5	$8000	DRW	Draw Plus data file
$C5	$C000		DYOH Architecture Document

$C5 $C001 DYOH predrawn objects
$C5 $C002 DYOH custom objects
$C5 $C003 DYOH clipboard
$C7 $0000 Control Panel Document
$C8 $0000 FON Apple IIgs font file
$C9 $0000 FND Apple IIgs Finder data file
$CA $0000 ICN Apple IIgs Finder icon file
$CD $0000 CDS ACE-compressed sound file
$D0 $0000 MS Multiscribe 3.0 file
$D0 $8001 MS Multiscribe 3.0 file / Appleworks GS Main Dictionary
$D0 $8002 MS Multiscribe 3.0 file / Appleworks GS Aux. Dictionary
$D5 $0000 Music sequence file (generic)
$D5 $0000 Music sequence file (Music Construction Set)
$D5 $8002 Music sequence file (Diversi-Tune)
$D5 $8003 Master Tracks Jr. Sequence
$D6 $0000 Instrument file (generic)
$D6 $0000 Instrument file (Music Construction Set)
$D6 $8002 Instrument file (Diversi-Tune)
$D7 $0000 MIDI file (generic)
$D8 $0000 Sampled sound file (generic)
$D8 $0001 Sampled sound file (ACE/compressed)
$D8 $0002 ASIF instrument
$D8 $8001 Hyperstudio sound
$DB $0000 DB Master document
$DB $0001 DB Master document
$DF $0000 DEV COMMAND.COM device config/driver file
$E0 $0000 LBR Telecommunications library file (generic)
$E0 $0000 LBR Telecommunications library file (Apple library Utility)
$E0 $8001 LBR Telecommunications library file (AppleLink Conversion)
$E0 $8002 Shrinkit (NuFX) document
$E1 $0000 MAC Macintosh file in MacBinary format
$E2 $0000 AppleTalk file
$EE $0000 R16 DE/ASM 816 relocatable object file
$EF $0000 PAS Pascal on a partitioned disk
$F0 $0000 CMD ProDOS command file
$F1 $0000 User defined type #1
$F2 $0000 User defined type #2
$F3 $0000 User defined type #3 / MouseWrite file
$F4 $0000 User defined type #4 / AE Pro macro file
$F5 $0000 User defined type #5 / ECP batch file
$F6 $0000 User defined type #6
$F7 $0000 User defined type #7
$F7 $0006 Publish-it font file
$F8 $0000 User defined type #8 / Merlin linker file
$F8 $C311 Print Shop GS black/white background
$F8 $C312 Print Shop GS black/white border
$F8 $C313 Print Shop GS black/white graphic
$F8 $C314 Print Shop GS black/white greeting card graphic
$F8 $C315 Print Shop GS black/white letterhead graphic
$F8 $C316 Print Shop GS black/white font
$F8 $C317 Print Shop GS black/white banner pixel pattern
$F8 $C321 Print Shop GS Color background
$F8 $C322 Print Shop GS Color border
$F8 $C323 Print Shop GS Color graphic
$F8 $C324 Print Shop GS Color greeting card graphic
$F8 $C325 Print Shop GS Color letterhead graphic
$F8 $C326 Print Shop GS Color font
$F8 $C327 Print Shop GS Color banner pixel pattern
$F9 $0000 OS GS/OS / ProDOS 16 operating system
$FA $0000 INT Interger Basic program / Beagle Compiler program
$FB $0000 IVR Integer Basic variable file
$FC $0000 BAS AppleSoft Basic program
$FD $0000 VAR Variable storage file
$FE $0000 REL Relocatable file
$FF $0000 SYS ProDOS 8 System file

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GS System 5.0

Dave Ward reviews this much awaited and vastly improved operating system for the IIgs

At last the much vaunted GS/OS System 5.0 has arrived. Apple Computer Inc. whetted our appetites during early May 1989 at the Boston Applefest with demonstrations of an early version with the promise that it would become available in the 'summer'. Like it's predecessor GS/OS version 4.0, System 5.0 requires two 3.5" diskettes to contain the system and it's support files. (The Directory lists of the two disks are printed in the Apple II library Catalog under disks 2GS020 and 2GS021)

Availability

GS/OS System 5.0 is available from official sources such as Apple Dealers although I only know of three over here: Bidmuthin Technologies, Holdens Computer Services and Celtip; you just take along a couple of 3.5" diskettes and they'll let you copy their System 5.0 masters. Alternatively you can order 2GS020 and 2GS021 diskettes from the Apple IIgs library which are the SYSTEM.DISK and SYSTEM.TOOLS respectively. You will require both disks to install the system correctly.

The History Lesson

Since it's inception in late 1986 the Apple IIgs has been plagued by very slow disk access and rather sluggish super high-resolution graphics when we all know that the 65816 microprocessor at the heart of the machine is quite fast. Even though the 2.8MZ version of the 65816 might appear slow when other machines use 8, 12 and even 15MZ microprocessors the 65816 usually takes less cycles than many of the others to achieve the same result. System 5.0 has been introduced to address these difficulties and show Apple's continued support for the machine.

The Changes

So let's take a closer look at the changes from System 4.0 to System 5.0 :-

❑ Improved Toolbox routines which handle windows and other super-resolution graphics much faster.
❑ Faster disk access.
❑ Express loader for files with special headers.
❑ General improvements to the Finder.
❑ Prodos 8 and BASIC.SYSTEM debugged.
❑ New Desk Accessory 'Control Panel'
❑ A driver for Steve Wozniak's parallel printer card has appeared at last.

❑ The improved Toolbox routines are quite evident if one uses the Finder where windows open and close with the speed that only those with Transwarp GS accelerators have seen. These speed increases are difficult to measure but appear to be at least twice as fast as before. So where does this speed increase come from? Well it is probably a combination of two things. First many of the GS/OS routines were originally written in a high level language such as Pascal and C. Converting these to 'machine code' would make a big difference in speed. Secondly certain critical routines will have been optimised for speed.

❑ Faster disk access is a must particularly for 3.5" diskette users. Why should a .75 megabyte package such as AppleWorks GS take 6 minutes to load? This problem has really been attacked on two fronts: the first is better disk access which we are discussing here and secondly more efficient methods of dealing with the data when it is loading into memory. This is where Express load comes in which we will look at later.

Disk Access Speed

For 3.5" diskette users the speed of disk access has been just about doubled from System 4.0 to System 5.0 which is shown in Table 1.

Formatting speed is unchanged but access to 3.5" diskettes is about twice as fast as System 4.0.

Booting GS/OS is hardly changed although System 5.0 will be loading quite a bit more data. I thought that System 5.0 loaded faster from my hard disk until I timed it!! Why should it be 20% slower?

System 5.0 improves the move to and from ProDOS 8 by assuming that much of the GS/OS system can remain in memory.

❑ Express load is a new feature to GS/OS system 5.0 and will allow certain types of files to be loaded more quickly. Fortunately developers will be easily able to emend their files to enable System 5.0 to load them. It is claimed that up to a 200-500% loading speed increase can be expected! We'll have to wait and see.

❑ The Finder is cleaner and faster due to the Toolbox improvements but many small changes have been made, too. Here is a list of a few of them :-

1) Shutdown, in the Special menu, can now be invoked by pressing Open-Apple+Q.
2) When you list files in a folder by name these are now much more comprehensive giving not only the simple name but also other variants depending upon the auxiliary information. This information is stored in two files in the ICONS folder FTYPE.MAIN & FTYPE.AUX. If you want to see these official filetypes use the little Applesoft program listed in Table 2. Just change the pathname in line 10 as necessary. The complete list of file types can be found on page 26. Filetype $D8 for instance

Table 1

Operation	5.0	4.0	inc.
Format 3.5" diskette	49	49	Same
Read whole 3.5" diskette during copying	28	53	189%
Write whole 3.5" diskette during copying	42	134	319%
Launch HyperStudio from 3.5" diskette.	16	27	168%
Launch HyperStudio from RAM disk.	12	12	Same
**Copy 110K file from RAM to 3.5" diskette	9	18	200%
**Copy 110K file from RAM to 3.5" diskette	9	18	200%
Boot from 3.5" diskette to Finder	52	57	130%
Boot from Hard disk to Finder			
Boot from RAM disk to Finder	23	22	96%
Launch Applesoft from Finder	3.8	5.7	150%
BYE from Applesoft to Finder	5.5	11.7	212%

** Copying was done with a cache of 32K and 800K respectively but with no improvement with the larger cache.

has four entries which only differ by the auxiliary value in the second column. The third column holds the name that appears in the Finder.

$D8 $0000 Audio IFF doc
$D8 $0001 Compressed sound
$D8 $0002 ASIF instrument
$D8 $8001 HyperStudio sound

3) You'll notice that pathname separators are now : colons rather than the / slashes. You will see :SYSTEM.DISK:SYSTEM rather than /SYSTEM.DISK/SYSTEM used in previous versions.
4) The Info icon entry in the Special menu is much more comprehensive and produces a window with a spiral bound note pad giving general information and a calculating icon on one page and the whereabouts of the item on the second page.

❑ ProDOS 8 is now at version 1.8 and this file can, as usual, be found in the SYSTEM folder as P8. Some bugs have, apparently been squashed including the problem of DELETEing files pointed out by A2 Central, recently. BASIC.SYSTEM is now at version 1.3 and many of the old bugs have been dealt with including the chain bug. A new command MTR has been added to allow one to enter the monitor instead of the old CALL -151. This command is different than the old ones and it's text appears at a different place in memory and may easily be changed, should one wish. For MMM do the following :-

```
POKE 48045,ASC("M") : POKE
48046,ASC("M") : POKE
48047,ASC("M")
```

❑ When you use Desktop Applications such as the Finder there is a new entry Control Panel and the Cache entry under System 4.0 has gone. When you choose this 'Control Panel' a window will appear with icons corresponding to many of the features in the usual Control Panel in the Classical Desk Accessories menu. New items can easily be added to this Control Panel, however, simply by placing a special file entry into a new folder in the SYSTEM folder named CDEV. You'll see these files in the box listing all the files in the system disks. The memory cache can now be adjusted from the 'RAM' icon in this new Control Panel.

Desk Accessories

The Classical Desk Accessory menu has been patched too. When you press the three keys to enter the CDA menu the cursor rests upon the first entry the Control Panel (not Quit as in previous incarnations) and the up arrow will no longer take you to the bottom of the list Quit. This is because the CDA menu can now scroll if you have more than 13 entries.

Table 2 -- Listing of the Applesoft Program to list Filetypes

```
1  DEF  FN P(X) =  PEEK (X + 8) +  PEEK (X + 9) * 25
   : GOTO 10
9  PRINT "Saving the FX program - please wait"
   : PRINT  CHR$ (4)"SAVE FX"
   : PRINT "Saved the FX program"
   : END
10 N$ = "0123456789ABCDEF"
   :D$ =  CHR$ (4)
   : PRINT D$"BLOAD /SAM/ICONS/FTYPE.MAIN,T$42,A$4000"
20  HOME
   :PT = 16384 :EN =  FN P(PT + 12) + PT - 10
   :PT = PT + 2
30 PT = PT + 10
   : IF PT > EN THEN 9999
40 FT =  PEEK (PT)
   :TX =  FN P(PT) + 16384 :LN =  PEEK (TX) :FI$ = ""
   : FOR M = 1 TO LN
   :FI$ = FI$ +  CHR$ ( PEEK (TX + M))
   : NEXT
50  GOSUB 10000
   :FT$ = "$" + NU$ :FT =  PEEK (PT + 3) : GOSUB 10000
   :AU$ = "$" + NU$ :FT =  PEEK (PT + 2) : GOSUB 10000
   :AU$ = AU$ + NU$
55    PRINT FT$,AU$,FI$
60    GOTO 30
9999  STOP
10000 REM  "=== Decimal to HEX string ===
10010 F1% = FT / 16 :F2 = FT - F1% * 16
   :NU$ =  MID$ (N$,F1% + 1,1) +  MID$ (N$,F2 + 1,1)
   : RETURN
```

Installation

Installation must only be done by using the Installer program on the :SYSTEM.TOOLS diskette because some files, probably now but certainly in the future, may not be copyable properly by ProDOS 8 utilities as they will have Resource Forks as well as Data Forks. Apple Computer Inc. have really made the Installer easier to use because only the minimum of disk swaps on single drive systems are required. System 4.0 made it extremely painful to carry out an installation with a single drive system; System 5.0 is a pleasure in comparison.

Like System 4.0 pressing a key immediately after booting produces a text page instead of the normal super-resolution screen showing the welcome to the Apple IIgs and thermometer. This text page shows the current versions of the components of the GS/OS and in System 5.0 are at version 3.0; System 4.0 of GS/OS was version 2.0 although version 2.1 must have existed, too. These numbers can be a bit confusing.

Conclusion

In conclusion System 5.0 is a very pleasant improvement over System 4.0. New and better tools improve disk access and desktop application speeds. If EXPRESS LOADER is as good as it is claimed we will soon see GS/OS applications loading before you've finished your cup of coffee. Let's hope the improvements keep on coming.

Dave Ward

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Appleworks GS	Claris	1.25Mb	
Multiscribe IIGS	Claris	768K	
Notes 'N Files	Datapak	-	
DeluxeWrite	Electronic Arts	768K	***
DeluxeWrite w/DeluxePaint II	Electronic Arts	768K	
VIP Professional	VIP	512K	
Calendar Crafter	Mecc	768K	****
Medley	Milliken	1.25Mb	
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Compiled by J.Kishimoto - 9 August 1989. Any additions/corrections to this list will be appreciated.

I can be contacted via:

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HyperStudio

Dave Ward looks at the IIgs answer to the Macintosh Hypercard ™

Back in 1986 when the Apple IIgs was lauched much was expected of it's fine super-resolution graphics and exceptional sound capabilities. Since that time many great graphics and music packages have appeared to take advantage of the machine's hardware. As might be expected it's in the field of games and recreational programs that full advantage of the graphics and sound have been squeezed out of the machine. Just look at some of the best games where graphics and animation combined with great sound. Wouldn't you like to emulate them!!?

I must admit having wondered for some time when an equivalent to the HyperCard on the Macintosh computer would be made available for the Apple IIgs; it was fairly obvious that Apple Computer Inc. wouldn't introduce one and so it had to wait for a third party software company to develop it. Well Roger Wagner Publishing first introduced their HyperStudio at the Boston Applefest in early May 1989 as a partly working package. Since then the product has been made available with the promise that 'Guinea Pig' purchasers would be given free-of-charge upgrades until HyperStudio is a fully working system.

I take the plunge

When I first saw Hyperstudio advertised I immediately decided to purchase a copy and I received a 260mm by 225mm by 72mm box containing :-

1} 69 page manual.
2} Sound digitising board.
3} Speaker containing small amplifier.
4} Microphone.
5} Four 3.5" diskettes.
6} An eight page 'HyperStudio Package Notes'.

The 'HyperStudio Package Notes' should be read first because it advises one to do so in large capitals and tells you that this is a preliminary version of HyperStudio. Since many of the functions are not yet useable you will need to follow, in some cases, rather circuitous routes to get just what you want.

The next thing to do is to read the manual and install the digitising board which is fortunately clearly described.The Digitising board is just 55mm by 45mm and does not actually use a slot but fits, above a slot, onto the back panel of the computer effectively blocking the slot under it. This should not present a problem since there will always be a free slot in an Apple IIgs. The board takes its power from the Fan socket at the back of the motherboard and also needs to be plugged into the sound socket at the front of the motherboard. In case you are already using one or both of these sockets there are two plugs on the card into which your fan and etc. can be chained. On the back plate of the digitising board is a small stereo jack socket into which one plugs the supplied microphone or one of your own.

Only one loudspeaker is supplied although the cable included in the package has a stereo jack that plugs into the socket in the back of the Apple IIgs and terminates in two mono plugs, one of which plugs into the back of the loudspeaker. The loudspeaker also requires four AA batteries or equivalent rechargables; these are not supplied in the package. The batteries power an amplifier which has a switch on the back of the loudspeaker cabinet, however, even if this switch is ON the amplifier will automatically switch off when not in use. Alan Finn informs me that a second loudspeaker can be purchased from Roger Wagner Publishing, at a reasonable price.

The Disks

The four 3.5" diskettes are as follows:-

1} /HYPERSTUDIO - which is the boot diskette and contains GS/OS System 4.0 and some utility programs to enable one to change the system beep to a digitised sound and add sound and custom screen at boot-up. Also a program called BROWSER is supplied to allow one to listen to files of digitised sound. The most important utility is SOUND SHOP which allows one to record and playback sound files compatible with HyperStudio. The SoundShop screen shows a graph of the current digitised sound and allows one to cut and paste sounds just like one can cut and paste graphics. Recorded sounds can be played back at different speeds, echo added and other features such as fading etc. etc.

2} /DEMO - This diskette contains the HyperStudio program and many sample stacks. You first boot / HYPERSTUDIO and when the Finder appears insert the /DEMO diskette and double click on the HyperStudio icon.

3} /HS.ART - sample backgrounds and clip art.

4} /HS.SOUNDS - samples of digitised sounds.

The Card System

The basic element of HyperStudio is the CARD. A card consists of a super-resolution background which can be anything you choose. Once you have a background you can add text objects and graphic objects and BUTTONS. Buttons can have various sizes and can be invisible. When you point the mouse on a button and click it is equivalent to pressing a button. When you put a button on a card you can select what happens when the button is pressed. For instance you can add a sound or (video - USA only, I think); you can pass execution to another card, stack or application program. Two or more related cards constitute a stack. Stacks can be saved and loaded from HyperStudio.

The Home Stack

When you launch HyperStudio a stack called 'Home Stack' is automatically loaded which is a set of cards to demonstrate some of the capabilities of HyperStudio. The first card in the home stack contains a

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series of invisible buttons over icons, pressing these 'buttons' (actually clicking on the icons) invokes the demonstrations of graphics, sound and animation. Although you are executing a HyperStudio stack you are actually doing it from within the HyperStudio program. This is obvious since the first card is in a normal Apple IIgs desktop window, with the following menu bar.

 File Edit Move Tools Objects Colors Options

Most cards in a stack hide this menu bar but you could restore it or hide it by pressing the Open-Apple key and M key together. The file menu allows you to create new stacks save the current stack and load in backgrounds and clip art etc. The tools make HyperStudio into an excellent 'paint' program in itself. Objects allow one to add Buttons, Text, Graphics etc. Adding Text, for instance, doesn't work but the eight page notes tell you how to get around this problem. Add Graphic objects sometimes crashes but you can easily get around this one by using the ADD CLIP ART from the FILE menu.

Sounds

Although you can add sounds directly from the microphone into HyperStudio the best way is to use The Sound Shop since you might want to edit out pauses etc. The Sound Shop gives one much more flexiblity, anyway.

Memory usage

This can be quite important because super-resolution screens and sound are prodigal with memory. The graphics on cards are well compressed and even complicated graphics don't appear to take up much memory. Some as little as 2K but more complicated ones will take a bit more. Sound stored as part of your stack will take up large amounts of memory, at best 10K per second of digitised sound. Fortunately the sound can also be loaded direct from disk file which takes but a few seconds. On disk stacks are stored in PNT compressed form, the same as is used by PaintWorks.

The Preliminary Version

It has got to be said that the current preliminary version of HyperStudio has quite a few of it's options disabled (dimmed in the pull-down menus and others which produce a dialog box telling you that the particular routine is not yet completed and to be sure to send off your registration form to obtain the updates). There are also some routines which appear to be working but are obviously bugged since one hears a beep and the program falls into the monitor. Once you've found what you can't do it is still possible to make interesting stacks. I've enjoyed using HyperStudio and am looking forward to the full version.

It is understandable that Roger Wagner Publishing unveiled HyperStudio before it is fully functional and debugged; such a project is extremely time consuming and expensive and introducing the product early creates a much needed user-base and of course revenue. Just like HyperCard for the Macintosh there will soon be many stacks available; some commercial and others shareware or freeware. In fact it states in the manual that Roger Wagner Publishing will be marketing stacks. The availability of such stacks will make HyperStudio even more attractive since a lot of the thought and work in designing those stacks will have already been done. Perhaps we might even see an inexpensive front-end program that will only allow users to 'run' stacks.

Buy now or later?

You have a choice buy HyperStudio now and get a discounted product that the publisher will make right or wait probably until early 1990 to get the fully running and 'bug-free' program. HyperStudio is sure to be a 'hit' allowing users to make databases easily without any programming knowledge. It is almost certain that Roger Wagner Publishing will introduce programming capabilities to HyperStudio, possibly as another program.

Dave Ward

HyperStudio is published by :-

Roger Wagner Publishing, Inc.

1050 Pioneer Way, Suite "P"
El Cajon, California 92020

You should also be able to obtain it from:-

Holdens Computer Services.

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Partition Experiences

The background to the idea of partitioning a partition was my decision to replace a hard disk that had been giving me a lot of trouble. When I bought the new one I decided I might as well have lots more storage since the prices seemed to have dropped, so I got a 66 meg HD from Rodime. At first I wasn't aware that the disk would HAVE to be partitioned, I only thought of doing it because I thought it would be neat to do so. Then I discovered the need to partition the disk because only 32 meg were going to be recognised otherwise. I managed to do this successfully and ended up with 3 partitions, HD1 of 32 meg, HD2 of 32 meg and 2 meg spare on HD3. This is a lot of storage for me and since I do have old DOS 3.3 programs that are still useful the thought of further partioning arose. Also I had an early Apple Pascal that I thought I might put on the HD just for fun.

As it turned out I suddenly needed Pascal and an up-to-date version at that so I bought TML Pascal V 1.50 which should sit on the HD quite nicely without any further work so I was left with the idea of the DOS 3.3 partition only.

At first I thought of playing with the spare 2 meg on HD3 but of course DOS Master would only recognise 2 volumes per device so that was out of the question and I had to consider trying it out on HD2. Having had problems before I was not happy at using Backup and Restore as disks don't always reformat with exactly the same size and I was afraid I might have to start from the very beginning if anything went wrong. I therefore backed up all my data files on all partitions individually. In addition I backed up my system, icons folders, dictionaries etc as I didn't want the trouble of arranging everything from scratch again. Applications were left to take their chances as I already had masters obviously.

Now I was ready to try Dos Master. I followed the instructions very carefully and decided 2 Dos volumes on HD2 would be suitable (these are 800 sector volumes). I hit trouble at this stage as the red busy light on the HD drive stayed on in a very steady state and minutes went by. I almost fell asleep and became convinced the IIGS had done so. Feeling rather despondent I finally aborted it but when I got back to the Desktop it seemed that all my stuff on HD2 was still there (and on HD1 and HD3). The relief was short lived when I found that I kept getting messages that HD2 was probably damaged but the other two seemed ok. Another attempt had the same results so I finally erased HD2 and had a third attempt.

Once again the system seemed to hang and I got quite fed up and aborted it. However to my surprise HD2 now contained the DOS.3.3 file. The only thing was that HD2 seemed to be partitioned roughly 50-50 for Prodos and Dos 3.3 which isn't what I had expected. Nevertheless I continued with Dos Master just to see what might happen next. In fact I have HD2 quite successfully partioned and have place Dos 3.3 programs on it and run them with no problems at all.

All through this process HD1 and HD3 remained quite safe and untouched. It seems though that the volume to be partitioned should be blank before using Dos Master although the instructions don't suggest that to me. 16 meg for Dos 3.3 is rather a lot so someday I might try again but I do wonder if there are some bugs in Dos Master. Incidentally, my set-up was IIGS 1.25 meg memory running under GSOS v 2.0 with Rodime 66 meg hard disk and sundries such as Imagewriter II, 3.5 and 5.25 disk drives.

The exercise was interesting and worth trying!

Elizabeth Littlewood

Clarity

Open-Apple is Tom Weishaar's monthly newsletter for knowledgeable Apple II users. It's thin but packed tight with Apple II lore, humor, letters, tips, advice, and solutions to *your* problems. Compared to other Apple II publications, ***Open-Apple*** has the highest new-idea-per-issue ratio, the clearest writing, the funniest cartoons, the longest index, the best warranty (all your money back if you're not satisfied), *and* it takes up the least shelf space.

II cue #49

All of the new Beagle Bros *Timeout* series of AppleWorks enhancements are good. *UltraMacros* is incredible. But *Quickspell* is a work of true genius. What makes it so good is its user interface. After checking three dictionaries, it gives you a list of all words it couldn't find. You can select which words to ignore, which to fix, which to add to your custom dictionary, and which to look at in context. For more, see the Febraury 1988 ***Open-Apple*** page 4.5.

From our fan mail:

"Lee Raesly directed questions and added his input to a panel of four Apple II stalwarts....A brief recounting of their answers may be of interest to many of you:

Q. What magazines are available?

A. *WAP Journal, A+, AppleWorks Journal, Byte, CALI Apple, inCider, Open-Apple, Nibble.* (After *WAP Journal Open-Apple* was the unanimous favorite.)"

Washington Apple Pi Journal
Washington D.C., January, 1988, page 10

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The Nibbler

AppleWorks 3.0

There is some good news and some bad news on the AppleWorks 3.0 front. Those of you who responded to A2-Central update offer will have learned now that this only applied to the United States. Thank you Claris for not telling us before we sent our original disks to you! I hope they come back safely or we shall not even be able to get the upgrade here in the UK!

The good news is that AppleWorks 3.0 has arrived in the UK and is in stock at Bidmuthin. The price is £175 + VAT for the full package. If you are upgrading, it will cost £55 on production of your original disk. Contact Huw Price at Bidmuthin for further details.

StyleWare Lives!

The other news on the software front is that Beagle have bought all the StyleWare titles (except AppleWorks GS of course) from Claris. These are now available through Beagle outlets such as MGA and Bidmuthin. Some of the titles have changed, MultiScribe GS now becomes BeagleWrite GS, TopDraw becomes BeagleDraw, DeskWorks becomes Beagle Bros GS Desk Accessories (what a mouthful), StyleWare Clip art becomes Beagle Bros Clip Art, StyleWare Font Library becomes Beagle Bros Font Library, Multiscribe becomes BeagleWrite, Multiscribe Desk Accessories becomes BeagleWrite Desk Accessories etc. etc.

Contact Bidmuthin, MGA or your nearest Beagle Buddy for further details and prices. It is welcome that Claris have allowed their rerelease under the Beagle Brothers label.

Help Wanted

John Thompson wants to start some 'do it yourself' projects building hardware interfaces to control external devices on the Apple II series machines. If you have any experience of building interface cards, or simply want to join in this project, phone John on 01-979-8495.

The Force speeds up

If you access the Force through the London Telecom Gold PAD, you may well be aware that there is a new phone number to connect to this service. Dial 01-203-3033 and connect at any speed through 300-300 to 2400-2400. This access PAD also supports MNP level 5 error correction for fast clean communications.

How long will it take for this facility to be with us countrywide?

SCSI Power Packs

If you have been contemplating building your own SCSI hard drive and have been finding difficulty in getting hold of a power pack, try contacting Alex at Computerware Research Ltd., 11 Livestock Market, Hall Road, Norwich, NL4 6DW. Tel: 0603-507799.

Although they are not an Apple specialist, they do have various power packs and other parts available. They may well be able to help with your particular problem.

Ormbeta Help?

A new member, Mr Gubbay, has asked if we can help him with a severe problem. He has wiped Menu Two of his Ormbeta Purchase Ledger program for the Apple II. As this program is no longer available he cannot get a replacement. If anyone can let him have a copy please ring him on 01-800-2252.

Now you see it now you don't!

George Knapp was having a problem getting an auto-start program to work on his Apple II Ram card. It worked fine when setup on one machine, but refused to see the programs on his. The answer was very obscure, and took some tracking down.

ProDOS takes a look around as it boots, formatting any Ram drives it finds and naming them according to the Slot they are in. A card in Slot 5 for instance becomes /RAM5. However, ProDOS also tries to format the auxiliary memory on the //e as a small Ram drive naming it as /RAM. George had been preparing his AE Ramcard with the aid of a utility called PRODRIVE. This was set to name the AE Ram drive it created as /RAM.

After formatting it was leaving this drive set as the active drive. The copy program that then copied all the files to the Ram drive correctly copied to the right place as the correct drive was selected. However, when programs were run later, the smaller auxiliary memory Ram drive was seen by ProDOS as /RAM with of course the required programs apparently missing.

The answer was to disk patch the PRODRIVE program to name the Ram drive with another name. All worked fine from then on!

Apple II forever?

Hot on the heels of the announcement of System 7.0 for the Macintosh, we had the release of System 5.0 for the IIgs. Arguments will continue to rage about the future of the Apple II series, and whether Apple really wants to support it or not. Putting together all the information I have gleaned recently, and drawing some conclusions, it is clear that Apple are very unlikely to drop the II line in the near future.

It was supposed that the IIgs was created deliberately as a 'slow' machine so that it would not affect the sales of the Macintosh. It now appears that this was not the case. Apple were limited to a clock speed of only 2.8 mhz for the very simple reason that the 65C816 chips could not be made any faster in the bulk quantities expected by Apple.

The final pointer to me is that the new System 5.0 has actually appeared. It shows a strength and development of the IIgs line into a workhorse that can be attached to networks and file sharers. I am sure we shall see its role develop

as the second computer for the day to day jobs that the Macintosh should not be tied up in.

Apple II volume sales

In a press release from the Software Publishers Association a chart shows the volume of sales in software under various categories and various computers for 1988 in the United States. All figures are expressed in millions of dollars. The IBM tops the table with a gross figure of $2203.9 this is followed by the Macintosh with $334.4 closely followed by the Apple II with $177.1, the Commodore 64/128 follows next with $67.9 and all the rest follow up with $67.9 between them.

The bulk of the Apple II sales are in recreation, education and integrated software. This amounts to $143.4 as opposed to $37.2 for the Macintosh.

There are still estimated to be more Apple II computers in use today than Macintoshes.

Archimedes Ahoy!

I have mentioned other computers in this column before . However I have not mentioned the Acorn Archimedes. I am always amazed at how other machines operate. I know they must be different to the Macintosh or Apple would go running to the law courts. But do they really have to keep trying to reinvent the wheel and fail dismally in doing so?

The Archimedes is no exception. It has a fairly good high resolution display with 256 colours on screen, but the display looks chunky and harsh on the eye compared with a Mac II. The mouse seems to work much more smoothly than on an IBM, but why are there three buttons on the mouse when only one is needed? The operating system looks much like MicrosoftWindows. The icons are very pretty in a garish sort of way, but you cannot move them easily around when filing, and it is not immediately apparent which are data files and which applications.

I was given a demonstration of Desk Top Publishing with the Archimedes. The program was quite fast in places and has some nice touches, but when it came to printing, I was astounded. The Archimedes does not normally have a PostScript output, so all dumps are done as high resolution bit images to the laser. This took about 8 minutes a page! A three page document took some 24 minutes. The print window allowed for collating multiple copies of the print output. If you chose this option, it had to send each page down for every sheet. Three copies collated of three pages would take over an hour!

I am going to stick to the Apple range. We just do not have such a hard life as others seem to do. You may save money with these other machines but pay for it heavily in time lost.

Apple/Mac 89

Those of you who enjoyed the Bewdley events organised by Ivan Knezovitch will no doubt have put the 25th November in your diaries already. For the rest, note it down, get your ticket and come along with your chequebook and surplus goodies. It promises to be a great day. See you there!

The Nibbler

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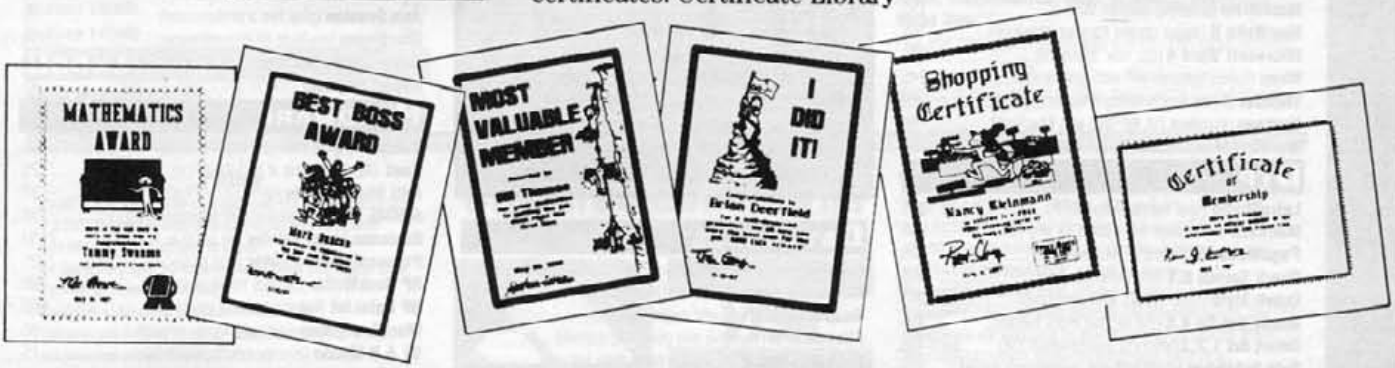

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Disk Express (speed up, unfragment hard drives) ..... 44.
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QuicKeys (macro maker, time saver utility) ..... 69.
QuickDex (lightning fast DA database, essential) ..... 35.
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Smart Alarms (new version DA reminder system) ..... 55.
S.P.A.M.M.(software maths co-processor) ..... 57.
Suitcase 2 (manage 100's DA's & fonts) ..... 49.
SuperSpool (best ImageWriter spooler) ..... 59.
SuperLaserSpool (Laser & ImageWriter spooler) ..... 89.
SAM (Symantec's anti virus utility) ..... 65.
SUM (essential utilities plus guard against crashes) ..... 65.
Smartscrap & Clipper (better scrapbook) ..... 49.
Tempo II (the best macro maker, timesaver) ..... 85.
Thunder II (best spelling checker) ..... 59.
Virex (virus tracer & eradicator) ..... 59.

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Macintosh Revealed Vols 1 & 2 ..... each 23.
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Mastering Excel ..... 22.
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Works on the Mac ..... 17.

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→MacGolf Colour (and highly addictive) ..... 56.
MacCourses (extra courses for MacGolf) ..... 25.
→Mean 18 (new colour Golf game) ..... 29.
→NetTrek (network space warfare) ..... 42.
Patton vs Rommel (strategy war game) ..... 19.
Pinball (also includes construction kit) ..... 15.
→P51 Mustang (fast & furious flying) ..... 39.
→PT 109 (patrol boat graphic simulation) ..... 29.
→QuarterStaff (role playing with colour) ..... 33.
→Road Racer (terrific high speed action) ..... 45.
→Reach For The Stars (galactic war game) ..... 29.
→Shufflepuck (air table ice hockey) ..... 29.
→Sim City (design and run a city) ..... 32.
Solitaire (9 different patience games) ..... 24.
→Solitaire Colour (beautiful graphics) ..... 24.
Sub Battle (command a WWII submarine) ..... 34.
→Sub Battle Colour (most realistic) ..... 34.
→Super Hang On (motorcycle racing) ..... 29.
Tetris (award winning Soviet game) ..... 24.
→Tetris Colour (brain teasingly addictive) ..... 27.
→Universal Military Simulator (3D wargame) ..... 35.
Where in the World is Carmen Sandiego? (10+) ..... 29.
Wizardry (graphic adventure) ..... 29.
→Zork 0 (classic adventure now in colour) ..... 39.

→ Works on Mac II

always check with us for compatibility as many games do not work on Mac II's, x's and SE 30's

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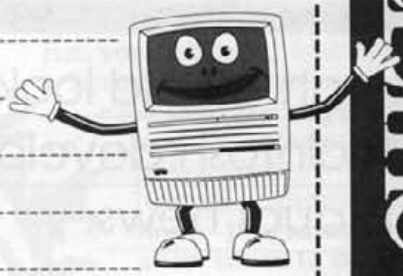

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MacLine

MacChat

Norah Arnold looks at the latest Macintosh developments and product news.

Formulator

It is very difficult with most Macintosh word processors to create complex mathematical equations and even those that can handle the maths require the user to learn difficult command structures and procedures. Unlike a few programs that allow you to type and solve complex equations, Formulator does nothing more than serve as a typesetter for mathematical equations and it does it very well indeed.

With a few keystrokes and clicks of the mouse, the user can create the most complex of equations, which can then be pasted into a word processing document, graphics program or any other that accepts PICT images. You also can print directly from Formulator, which is equipped with a built-in text editor. Also, Formulator elegantly takes advantage of the Mac's graphic interface and its program operation is remarkably intuitive.

When typing an expression which includes a fraction, Formulator automatically extends the fraction bar as far as necessary and centres the result. The alignment of the equation with respect to the margin of the page can be set by clicking the appropriate icon in the window's status bar.

Formulator can handle virtually any type of equation from integral calculus to matrix algebra and it is very easy to blend equations and text from within the program using Formulator's text editor. The user can even use the program to create fairly complex chemical formulas.

The resulting formulas, etc. can be copied and pasted into documents created by other programs, although in some cases a little experimentation may be required to get the equation properly positioned. Formulator comes with a variety of features to make equation creating as easy as possible. The "Symbol" menu gives the user access to the entire Symbol font in a pull-down, point-and-click format to simplify and speed up insertion of inequality symbols, logical operators and so on, including special signs such as the infinity symbol. In addition, the Greek alphabet can be displayed on the screen along with a palette of point-and-click symbols that let the user bypass the pull-down menus to select various operations, such as integration, summation, roots, fractions, superscript, subscript, etc.

Formulator supports multiple windows, automatic centring of formulas and limits, automatic equation alignment, dynamic brackets and a host of other useful features. In addition, the program supports accents, overbars, arrows, multiple limits and vertical kerning to get a formula's alignment just right. And you can print your results from within Formulator or you can save them to the clipboard in PICT format for pasting into other documents.

Formulator is not copy protected and if you need a way to create eye-catching equations, this program appears to be just the thing. Perhaps ICOM Simulations will create a desk accessory version for those of us who use Mac Plus machines and have to do without MultiFinder. The minimum system requirement is a

Macintosh 512K-enhanced and the US price is $149.95.
Press information on Formulator from ICOM Simulations Inc. 648 S. Wheeling Rd, Wheeling IL 60090 (312) 520-4440

Macintosh behind the Iron Curtain

The United States Defence Secretary Dick Cheney stated recently that he had reservations with regard to the administration's decision to relax export restrictions on the sale of personal computers to communist nations. He made it clear that he disagreed with raising the level of sophistication of computers sold to the Soviet Union and Warsaw Pact countries.
At the White House, press secretary Marlin Fitzwater said that President Bush supported the decision by Commerce Secretary Robert Mosbacher to relax the export restrictions. Mosbacher had announced that he had decided to lift controls on such commonly used personal computers as the Apple Macintosh Plus and IBM PS/2 and AT models because similar computers are available from foreign suppliers, including some in Eastern Europe. Under the new rules, U.S. manufacturers no longer need to go through the lengthy process of obtaining government permission to send to communist nations computers of any make with the equivalent power and speed of the IBM-AT model, considered in the middle range of personal computers.
At the end of a Pentagon news conference involving U.S. and South Korean defence officials, Defence Secretary Cheney said that he wanted to make an unrelated statement and then noted an article in the Washington Post that said he had agreed with Mosbacher's decision.
The defence secretary said he is concerned that the sale of these computers will give the USSR an improved military capability and that should be avoided.

pcANYWHERE III from DMA

The minimum system requirement for this package is an IBM PC, XT, AT PS/2 or compatible and DOS 2.0 or higher. So why am I writing about it?
Firstly, pcANYWHERE III has had some excellent reviews in the US, it is very user friendly and the documentation is well-written, clear and concise. Secondly, using a companion software package, PC MacTerm, anyone with a Macintosh can connect and operate remotely an IBM compatible. pcAnywhere is obviously a winner for those who want to work at home. If you own a Macintosh and you wish you could access and run your office PC from your home, hotel room or wherever you are, then you may be interested in pcAnywhere.
Normal communications programs will allow users to upload and download files from another computer, but to truly control another computer you need remote access software. Such software allows you to work anywhere you have access to a telephone provided both your computers have modems. With remote software, you call from wherever you are to your host computer. Once connected you operate the host from the remote. The user can send data, print at the host or remote, and do just about anything else you wish from the remote computer.
Press releases give the following examples of what can be done when using pcAnywhere:- Sales reports, both sent and printed; data entry by bookkeepers or accountants; billings and payroll. You can run your word processor, spreadsheet, or database program. You can send files to or from the host or remote computer. If you run a business requiring customer support, pcANYWHERE allows your customers to call in and lets you control their computer to diagnose and fix their problems. It allows customers to place orders with your computer as well. pcANYWHERE III comes with two disks; the main program, "Anywhere", and the program used on the remote computer, called "Aterm." It is best to run this software from a hard disk,

although it could be run from floppies, using it would be far more difficult.

The setup routine allows the user to designate their options and peripherals and to set password levels and callback capabilities for security purposes. Callbacks prevent unauthorised access by having the host computer call the remote back on a predetermined number.

pcANYWHERE will handle communication speeds from 50 baud up to 57,600, but 1200 baud would probably be most useful. Sessions may be recorded for later playback if the user wishes. The ability would, however, be helpful in customer support applications. The program also allows for keeping a log of calls.

The software does allow screen colours to be set although it would probably be advisable to set both monitors to black and white if one of them could not handle colour. Error-checking for file transfer can be set at different levels at the user's discretion and even with maximum error checking file transfer is speedy enough.

pcANYWHERE will run in active, resident, and automatic modes. In the active mode, you tell pcANYWHERE to wait for a call. In this mode you are unable to use the computer for anything else. In resident mode, it waits in background for a call, and attends to the call immediately when it does come in. In automatic mode, the remote PC is in control as soon as the connection is made, no remote action is required. In resident or automatic modes, 45K of memory are used. The user can customise the program for different types of terminals.

List price in the US is $145.00.

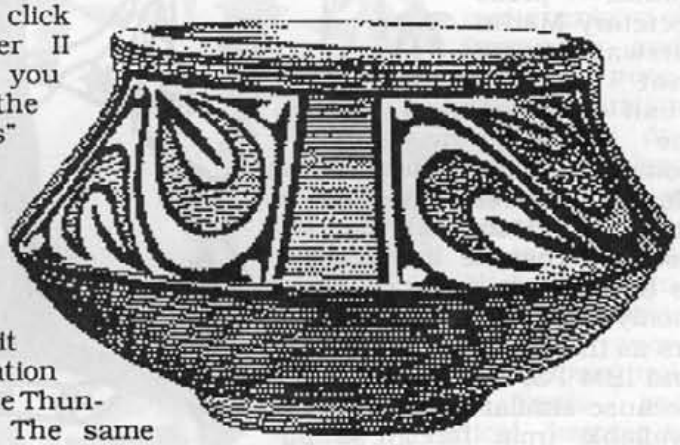
Thunder II from Electronic Arts

Thunder II from Electronic Arts of San Mateo, California has a minimum system requirement of a Macintosh Plus and it should be noted that a hard disk is strongly recommended.

Thunder II works within most major applications, ranging from word processors to spreadsheets, and is a fast, accurate and remarkably easy-to-use spell checker for Macintosh computers. Thunder II is a control panel device, or "cdev," and is always available inside your System folder. The user simply tells the program which applications it will be working with and when that application is started, Thunder II will automatically show up in the menu bar.

If you wanted to use Thunder II with a word processor like Microsoft Word, you would first call up the control panel desk accessory and click on the Thunder II icon. Then, you would click the "add applications" button, which calls up a standard "Open File" dialogue box. When you locate Word simply click on it and the application will be listed in the Thunder II window. The same process works for loading a desk accessory into Thunder. Then every time you open Word, or any other application listed in the Thunder control panel window, the spell checker will automatically show up in the menu bar, ready for action. The user may also set the program to start each time you boot your Mac or you can set it to stay off until you need it. Other features can be turned on or off for single sessions only or you can set them to stay in effect indefinitely. Anyone who is used to the Macintosh probably won't even need to refer to the well-written manual. Thunder II comes with two major dictionaries, one containing 50,000 words and the other 86,000. The smaller dictionary is recommended for users who don't have a hard disk or who only have one megabyte of RAM. In addition, Thunder also comes with supplementary dictionaries containing computer terms and common contractions and you can tell Thunder to use just the dictionaries you want or all of them.

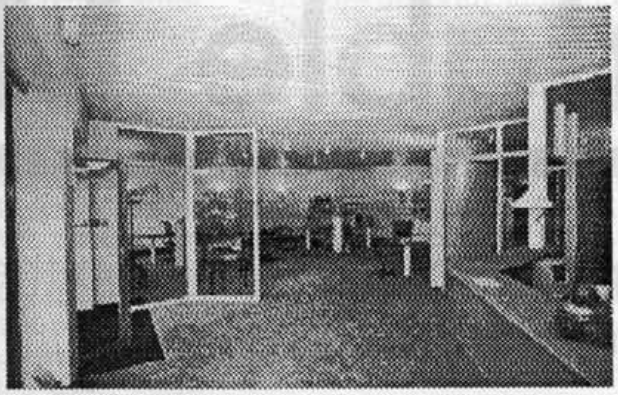
Thunder can be set to check spelling interactively, that is, as each word is typed, or to check an entire selection at once. In the interactive mode, Thunder will beep (or the menu bar will flash if you prefer) every time a word is misspelled or when it detects improper capitalisation, punctuation or a double word ("the the," for example). At that point, the user can correct the error, manually or automatically, ignore it or add the word to a supplementary dictionary. If you choose to add a word to a dictionary, a window appears that lets you choose what suffixes should be recognised in the future and which dictionary the word should



be added to. Batch checking lets you check every word in a selected range or in the entire document.

One of Thunder's most useful features is a glossary that allows the user to store frequently used words or phrases and to call them into being with a simple abbreviation similar to the way this can be done using Macromaker. Electronic Arts state that Thunder II will work with virtually any Macintosh application and it has a list price in the US of $79.95.

Electronic Arts 1820 Gateway Dr. San Mateo, CA 94404 (415) 571-7171



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The Portable Mac

Information from Apple Computer U.K. on the new Macintosh™ Portable Computer.

Overview

The Apple™ Macintosh™ Portable personal computer offers complete Macintosh functionality in a portable design. It runs virtually all current versions of Macintosh software and provides full compatibility with other Macintosh hardware.

In addition, the all-in-one design of the Macintosh Portable makes it ideal for users who want to take their work with them. Everything a user needs - CPU, screen, keyboard, pointing device, battery, and disk storage - is integrated into a single easy- to-carry package.

The Macintosh Portable also delivers the superior graphics that people have come to associate with the Macintosh. Its high-contrast Active Matrix Liquid Crystal Display has such a fast response rate that the Macintosh interface looks and feels just the way it does on any other Macintosh computer. It also displays the full width of an A4 page, and the screen is easy to see in almost any lighting condition and from almost any angle.

The long battery life and intelligent power management are a particular feature of the Macintosh Portable. Unlike most battery-powered computers, which operate for 2 to 3 hours before batteries need recharging, the Macintosh Portable can provide 8 to 10 hours of operation, depending on the system configuration and usage.

To conserve power and extend battery life, the Macintosh Portable includes a special microprocessor that manages power use. And a Battery Desk Accessory monitors and displays battery power levels and posts warnings when the battery is getting low.

The Macintosh Portable comes standard with lMb of RAM, and is available in 2 configurations: with a built-in Apple 1.44Mb SuperDrive™ and an internal 40Mb hard disk drive.

Configuration

• Two Macintosh Portable systems are available:

- The Macintosh Portable CPU includes the CPU, Active Matrix Liquid Crystal Display, keyboard, trackball, mouse, lMb of RAM, and a built-in 1.44Mb SuperDrive floppy disk drive,
- The Macintosh Portable Hard Disk 40 CPU includes all the features of the Macintosh Portable CPU, as well as an internal 40Mb hard disk.

CMOS Microprocessor

• The Macintosh Portable contains a special version of the Motorola 68000 microprocessor that conserves battery power and yet provides high- performance processing. The complementary metal oxide silicon (CMOS) 68000 microprocessor consumes less power than its non- CMOS counterpart, and operates at 16MHz clock speed - twice that of the 68000 in the Macintosh SE computer.

Active Matrix Liquid Crystal Display

• The Macintosh Portable Active Matrix Liquid Crystal Display (LCD) provides very high contrast - up to 5 times that of standard LCD screens - to offer the superior graphics capabilities that support Macintosh applications, including animated graphics. And because of the fast response rate of the Active Matrix LCD, Macintosh Portable users can see the cursor move when they drag it across the screen with the mouse or trackball; with other battery- operated computers, the cursor is harder to follow because it disappears when moving.

The Macintosh Portable screen also can be viewed clearly in most lighting conditions - especially in bright light - and from almost any viewing angle. A transistor under every pixel of the Active Matrix LCD provides the fast response for the Macintosh user.

Power Management

• Most battery-powered computers provide only a few hours of usage before they need recharging, and include no options for managing the computer's power consumption. The Macintosh Portable, however, operates longer between recharges than comparable computers and provides better power management because of its Active Matrix Liquid Crystal Display, dedicated microprocessor (which serves as a "power manager"), low- power RAM, and lead acid batteries.

The power manager monitors and controls power allocation, and automatically puts the system or its components into a standby "rest" mode or "sleep" mode when they have been inactive for a preset period. During rest mode, the system operating speed decreases from 16MHz to lMHz - a change that is unnoticed by the user. During sleep mode, power is turned off but memory contents are retained. The user simply presses any key to instantly "wake up" the computer from either mode.

Also, the Macintosh Portable includes a Battery desk accessory that displays information about the power capacity of the battery, as well as posting low- power

warnings to users. When power gets very low, the system is automatically put to sleep and will stay in its sleep mode with RAM contents retained for up to a week.

Low-Power RAM
• To maximise battery life, the Macintosh Portable contains special low-power RAM, which consumes less power than standard dynamic RAM (DRAM). RAM can be upgraded from lMb to 2Mb with the Macintosh Portable lMb Memory Expansion Kit. When higher-density chips become available, the Macintosh Portable will be able to support up to 9Mb of memory.

Lead Acid Batteries
• The Macintosh Portable uses lead acid batteries because they provide long operating life and can be recharged more fully and more often than NiCad batteries. And since the battery voltage of a lead acid battery diminishes gradually as power is used up, the computer can provide users with information about the power level, as well as posting low-power warnings.

Network Support
• The Macintosh Portable serial ports provide full support for LocalTalk™ network connections;
• The Macintosh Portable provides full ROM support for all AppleTalk protocols.

Stereo Sound
• The Apple Sound Chip supports stereo sound at a sampling rate of up to 44.1KHz.

SCSI (Small Computer Systems Interface)
• SCSI is a high-performance interface for connecting the computer to hard disks and other mass-storage peripherals. Up to 7 SCSI peripherals (including an internal hard disk) can be connected to the Macintosh Portable;
• SCSI provides data transfer rates of up to lMb per second.

Operating System Software
• Macintosh system software includes:
—System Tools Version 6.0.4 or greater (the Macintosh operating system),
—Printer disk (printer drivers for all Apple printers),
—Utilities disks (includes utilities such as the Apple File Exchange, HD SC Setup, CloseView, Disk First Aid™, and Font/DA Mover).

Hypercard
• The HyperCard™ software and manual are included.

Technical Specifications
Processor
• CMOS 68000;
• 16MHz clock speed.

Memory
lMb of low-power RAM, expandable to 2Mb through the installation of a memory card in the RAM slot, and up to 9Mb when higher-density chips become available.

Screen
• Active Matrix Liquid Crystal Display;
• Full page width;
• 640 by 400 pixels.

Disk Storage
• Two standard configurations:
- 1 built-in SuperDrive that uses 1.44Mb high-density floppy disks; reads, writes, and formats Macintosh, MS-DOS™, OS/2™, and Apple II ProDOS™ disks,
- 1 built-in SuperDrive and an internal 40Mb hard disk drive.

Keyboard
• Built-in standard Macintosh keyboard;
• 63 keys.

Trackball
• 1.3 inch diameter trackball pointing device;
• Left- or right-handed placement;
• Can be replaced with the numeric keypad.

Numeric Keypad (Optional)
• 18 keys;
• Can be installed as an alternative to the trackball.

Mouse
• Low-Dower Apple DeskTop Bus mouse;
• Mechanical tracking: optical shaft encoding at 3.54 pulses per mm (90 pulses per inch) of travel.

Interfaces
• 1 external disk drive interface;
• SCSI interface: uses a SO-pin connector (internal) and a DB-25 connector (external);
• 1 Apple DeskTop Bus port allows daisy-chaining of multiple peripheral devices;
• audio port;
• 1 power adapter port;
• 1 printer port;
• 1 video port.

Sound Generator
• Apple custom digital sound chip provides 8-bit stereo sampling at 44 KHz, and includes 4 voice wave- table synthesis. Capable of driving stereo headphones or other stereo equipment through the sound jack.

Electrical Requirements
• Line voltage: 70 to 270 volts AC, 40 to 70 Hz;
• Power: 15 watts maximum.

Environmental Requirements
• Operating temperature: 50° to 104°F (10° to 40°C);
• Storage temperature:
-40° to 140°F (-25° to 600C)
- for a period not to exceed 3 days; storage for a longer period must be within operating temperature range;
• Relative humidity: 5% to 95%;
• Altitude: 0 to 10,000ft. (0 to 3,048m).

Size and Weight
• Height:
- Rear panel: 4.05in. (10.29cm),
- Front panel: 2.1in. (5.33cm),
- From base to highest point with display open: ll.0in (27.9cm);
• Width: 15.25in. (38.74cm);
• Depth: 14.83in. (37.69cm);
• Weight (including battery):
- Without hard disk: 13.751b. (6.25kg),
- With hard disk: 15.50lb. (7. 16kg).

Prices

Macintosh Portable 1/Fl Computer
(with lMb Memory, Internal Keyboard and Trackball, Carry case and Internal 1.44Mb SuperDrive)
£3995

Macintosh Portable HD 1/40 Computer
(with lMb Memory, Internal Keyboard and Trackball, Carry case, Internal Hard Disk 40SC and Internal 1.44Mb SuperDrive)
£4495

The Macintosh IIci

Information from Apple Computer U.K. on the new Macintosh™ IIci Computer.

Overview

The Macintosh™ IIci offers high performance and enhanced functionality in a system with the same small footprint and flexible design as the Macintosh IIcx personal computer. People who require high speed program execution for large spreadsheets, databases, and graphically intensive applications will appreciate the significant performance increases delivered by the Macintosh IIci.

A 25MHz 68030 microprocessor makes the most significant contribution to the dramatic performance improvement offered by the Macintosh IIci. By increasing the 68030 clock speed, the system is capable of performing up to 45 percent faster than the Macintosh IIcx and Macintosh IIx computers. To speed the processing of complex mathematical functions, a 68882 math coprocessor comes standard with the Macintosh IIci. Also contributing to increased performance is a memory cache connector designed to support high-speed cache memory cards. By installing a cache memory card, system performance can be improved by an additional 20 percent to 30 percent, for an overall performance improvement of up to 75 percent over the Macintosh IIx and IIcx.

The Macintosh IIci also comes with built-in video capability that enables the system to display up to 256 colours or shades of grey simultaneously on a variety of AppleTM colour and grey-scale monitors. In addition, built-in video makes the system easier to set up and increases the expansion capabilities of the Macintosh IIci by freeing up the NuBusTM slot usually occupied by the video card.

To support the Macintosh IIci hardware enhancements and to take full advantage of future 32-bit versions of the Macintosh operating system, the Macintosh IIci includes 512K of ROM (compared with 256K of ROM in the other members of the modular Macintosh family).

Optional memory parity support is also offered.

The Macintosh IIci shares a number of standard hardware features with the Macintosh IIcx. These include 3 internal NuBus expansion slots, a 3.5-inch internal hard disk drive, 8 standard external ports to accommodate peripherals, and the capability of expanding RAM to up to 8Mb. The Macintosh IIci also uses the 1.44Mb SuperDrive™ floppy disk drive, which allows it to read from and write to 3.5-inch Macintosh floppy disks, as well as the 3.5-inch disks used by many other types of personal computers. And like the Macintosh IIcx, the versatile design of the Macintosh IIci allows it to be used in either a vertical or a horizontal orientation.

The Macintosh IIci is compatible with virtually all Macintosh applications, and comes standard with Apple's MultiFinder™ operating system and HyperCard™, a tool for custom software solutions.

68030 Processor

The 32-bit Motorola 68030 microprocessor runs at 25MHz;
The 32-bit address bus provides a total addressable space of 4 gigabytes;
Separate instruction and data caches provide significantly faster processing;
Built-in PMMU supports virtual, shared, and protected memory in operating systems that have been designed for it;
Burst mode RAM access enables groups of instructions or data to be read RAM in fewer clock cycles than are required in normal access mode.

68882 Floating Point Math Coprocessor

The 68882 coprocessor speeds complex mathematical calculations, such as logarithmic and trigonometric functions.

Cache Connector

The cache connector allows the addition of a high-speed memory cache card, which stores frequently used instructions and data, enabling the system to perform 20 percent to 30 percent faster.

Built-in Video

The built-in video capabilities of the Macintosh IIci are made possible through the addition of 3 components to the logic board: the RBV (RAM-Based Video) chip, which functions as the video controller; a digital-to-analog converter (DAC); and a DB-15 external connector. The screen image is stored in a screen buffer located in main memory.

Optional Parity Support

By special order only, the system will be configured with a parity controller and parity RAM.

ROM

The Macintosh IIci comes standard with 512K of ROM. In addition, a ROM SIMM socket located on the logic board will facilitate the installation of future version of ROMs as they become available.

RAM

The Macintosh IIci can be up-

graded incrementally to 8Mb;
In order to support the 25MHz 68030 microprocessor, the Macintosh IIci utilises very high-speed 80-nanosecond RAM. Users can increase system memory capacity with Macintosh IIci Memory Expansion Kits. Using standard Macintosh Memory Expansion Kits will cause the system to fail;

When denser chips become available, the Macintosh IIci can be upgraded to 32Mb of RAM.

NuBus Expansion Slots
NuBus provides a multiplexed 32-bit address bus and data bus on a single 96-pin connector;

NuBus is self-configuring: Cards can be plugged into any slot and the system will automatically identify and configure each card, without DIP switches or jumper connectors;

The NuBus architecture supports data transfer rates of up to 37.5Mb per second.

SCSI (Small Computer Systems Interface)
SCSI is a high-performance interface for connecting the Macintosh IIci to hard disks and other peripherals, such as the LaserWriter IIsc, Apple Scanner, AppleCD SC™ CD-ROM drive, and other devices. Up to 7 SCSI peripherals (including an internal hard disk) can be connected;

SCSI provides data transfer rates of up to lMb per second.

Network Support
The Macintosh IIci provides full ROM support for all AppleTalk protocols, and has serial ports for LocalTalk network connections.

Operating System Software
Macintosh system software includes:
—System Tools Version 6.0.4 or greater (the Macintosh operating system)
—Printer disk (printer drivers for all Apple printers),
—Utilities disks (includes utilities such as the Apple File Exchange, HD SC Setup, CloseView, Disk First Aid™, and Font/DA Mover); HyperCard Version 1.2.5 (or greater) is included;

A/UX Version 1.1.1 (or greater) is compatible with the Macintosh IIci and must be purchased separately.

Technical Specifications

Processor
68030; 32-bit internal architecture;
25MHz clock speed;
Burst mode RAM access;
256-byte instruction and data caches.

Coprocessor
68882 floating-point coprocessor (IEEE standard - 80 bits precision). Cache Connector

Cache Connector
120-pin memory cache connector (for connection of optional high-speed memory cache card).

Built-in Video Support
Supports 640- by 480- pixel screens (such as the Apple High Resolution Monochrome Monitor and 13-inch Apple Colour High Resolution RGB Monitor) at up to 256 colours or shades of grey (up to 8 bits per pixel);
Supports 640- by 870- pixel screens (such as the 15-inch Apple Macintosh Portrait Display) at up to 16 shades of grey.

Optional Parity Support
Installation of parity generating chip and parity RAM converts the system to a parity system.

Interfaces
3 NuBus internal slots support full 32-bit address and data buses;
2 mini-8 serial (RS- 232/RS-422) ports;
2 Apple Desktop Bus ports allow daisy-chaining of multiple peripheral devices;
SCSI interface: one 50- pin internal connector and one DB-25 external connector;
One DB-19 serial port for connecting external floppy disk drives;
One DB-15 video port - built-in video;
Stereo sound jack.

Mouse
Mechanical tracking: optical shaft encoding at 3.9±0.39 pulses per millimeter (100 ±10 pulses per inch) of travel.

Sound Generator
Apple's custom digital sound chip provides 8 bit stereo sampling at 44.1KHz, and includes 4-voice wave- table synthesis - capable of driving stereo headphones or other stereo equipment through the sound jack.

Electrical Requirements
Line voltage: 100 to 240 volts AC, automatically configured;
Frequency: 50 to 60 hertz, single phase;
Maximum power: 90 watts, not including monitor power.

Size and Weight
Main unit
Height: 5.5in. (14.0cm);
Width: 11.9in. (30.2cm);
Depth: 14.4in. (36.5cm);
Weight: 141b.(6.4kg), with internal hard disk drive.
Mouse
Height: 1.1in. (2.8cm);
Width: 2.1in.(5.3cm);
Depth: 3.8in. (9.7cm);
Weight: 6oz. (.17kg).

Price
Macintosh IIci HD 4/80 Computer (with 68030, 4Mb Memory, Internal 1.44Mb SuperDrive and Internal Hard Disk 80SC)
£5450

The Portable Data Modem

Overview
The Apple™ Macintosh™ Portable Data Modem allows users of Macintosh Portable computers to communicate with other personal computers, minicomputers, and mainframes in order to access and exchange information.

It can be used to communicate with other personal computers, minicomputers, and mainframes to send reports and graphs between offices; to access databases and commercial information services: to find out the latest information or even to shop and bank from home.

The optional MNP (Microcom Networking Protocol) capability allows the Int'l XP 2400 modem to provide fast and accurate data transmission, even over noisy or low quality telephone lines when communicating with another MNP-compatible modem.

Sensible Grammar

An in-depth report from Geoff Wood

Do you experience difficulty with reference to punctuation? Do you basically have problems in conjunction with grammar? Do you exhibit a tendency to excessive verbiage? Would you like to put a stop to your errors in the not too distant future? If your answer is in the affirmative, you need Sensible Grammar at the present moment in time.

It found several faults in the first paragraph and suggested this revised version:-

Do you have trouble with punctuation? Do you have problems with grammar? Do you tend to use too many words? Would you like to stop your errors soon? If your answer is yes, you need Sensible Grammar now.

Many users of word processors are familiar with spell checking. But the drawback to most spell checkers is that they check only the spelling; they do not reveal faults in punctuation or grammar. Sensible Grammar is an easy-to-use program that checks your documents for common writing errors. It does not check spelling but it does draw attention to compound words which most spelling checkers ignore, such as any body and can not.

It uses a library of over 4,500 commonly misused phrases to identify cliches, faulty, informal, over formal, racist, repetitive, sexist or vague words and wordy phrases. It can expand abbreviations or vice versa. It detects many punctuation errors, capitalization errors and other errors such as repeated words.

It also checks for proper agreement between noun and verb, article and noun, and verb and modifier. The phrases and punctuation 'parts' are held in various files and they can be changed to suit your requirements.

Sensible Grammar needs a Macintosh 512KE or larger machine. The program and its ancillary files occupy about 425k of disc space. It is not copy protected.

The program works with files created by MacWrite 4.5, 5.0 & II, Microsoft Word 1, 3 & 4, Microsoft Works 1 & 2, Microsoft Write, WordPerfect and WriteNow 1 & 2. It also works with Pagemaker files and text files.

The manual of 89 pages (A5 size) is well illustrated and it includes a tutorial section which refers to a sample file on the program disc.

As supplied, the program took about 50 seconds to start up from the 800k disc. It took only 30 seconds to start up from my Cirtech PlusDisk SC. The startup time can be reduced by changing some of the options (discussed later).

While the program is starting up, the screen displays the **Phrase Status** window which lists the 'parts' files and phrase files. It shows which files have been loaded into the computer and the number of entries in each file. This window disappears when the program is ready for use.

The menu bar displays the words File, Edit, Check, Options and Windows. The File and Edit menus are similar to other programs. The other menus are discussed later.

When you choose Open Document from the File menu, Sensible Grammar opens various windows, one on top of another. It then displays a dialogue box with a scrollable list of the files available for checking. This dialogue box has checkboxes for the different types of files that the program can read. You can click in any of these boxes to limit the list of files.

The dialogue box also offers an option to check the entire document or to check only selected text. To use the latter option, the file must have been saved with some text selected. This option works only with MacWrite and WriteNow, as other word processors do not save text selection.

When you select a file to be opened, the program starts to read the file. It analyses each sentence in turn until it finds a sentence with one of the suspect phrases or with suspect punctuation. The sentence is displayed in a scrollable panel in the top window (which is called the **Checking Document** window). The suspect phrase is selected and has « and » marks before and after it. Suspect punctuation is indicated by a selected √ mark.

Partly hidden underneath the Checking Document window is the **Progress Report** window. It displays the left hand edge of your file so that you can see the first few words of each line. You can re-size and adjust the position of these windows but the Checking Document window must be at least 6 inches wide.

Below the panel displaying the suspect sentence, the Checking Document window shows an icon representing the type of file you are checking (Word 3, MacWrite, etc). It also shows the type of fault, e.g., cliche. In the lower part of this window is another scrollable panel known as the **Text Edit** box. If appropriate, it displays alternatives to the suspect word or phrase, or recommendations such as Omit or Avoid.

Just to the left of the Text Edit box there are two buttons labelled Suggest and Replace. Below the Text Edit box are four other buttons labelled Fix, Mark, Ignore and Log Error. Some of these buttons may be dimmed. You can select one of the buttons either by clicking with the mouse or by holding down the Command key and pressing the first letter of the word.

If you think that the suspect word or phrase is better than any of the suggestions, or that the suspect punctuation is correct, you can use the Ignore option to continue the search.

If you prefer one of the suggested words or phrases, you can choose the Suggest option. The suspect phrase is replaced by the first suggestion. If you choose Suggest again, the first suggestion is replaced by the second suggestion (if any) and so on until the suspect phrase reappears.

You can then use the Replace option to save the current correction. Even if there is only one suggestion, you must use the Suggest option before the Replace option. After the Replace command, the program moves on to look for the next suspected error.

You may not like the suggestions but can think of a better alternative. If so, you should click on the document icon between the two panels to display the suspect sentence in the lower panel. You can edit it and then use Suggest and Replace. Clicking on the document icon a second time returns you to the original contents of the two panels.

The **Fix** option corrects punctuation and capitalization errors. It is available for most errors but not for unbalanced parentheses and quotes, nor for some missing commas. If the Fix button is dimmed, you can use the sentence editor to correct the problem.

The **Mark** option inserts « » marks around the suspect word or phrase, or a √ mark near the suspect punctuation. The search is then resumed.

The **Log Error** option creates a file called Filename Errors showing a list of the logged faults. Each entry shows the type of fault, the suggestions and the faulty sentence. This is useful if you want to keep a record of the faults. It's also useful for teachers.

The Mark option simply marks the suspect word or phrase but does not enter the type of fault nor the suggestions. If you wish to compile a record of the errors, you must use the Log Error option before using the Replace, Fix, Mark or Ignore options.

As the search proceeds, a bar chart in the Checking Document window shows the percentage of the file checked so far. The speed of checking depends on the settings of the program, the type of Macintosh and on the number of suspect items in the file. It also depends on how long it takes you to decide what to do about the suspect phrases and punctuation. With the default settings, it took about 20 minutes to check this review on my Mac Plus.

Near the top of the Checking Document window are five icons. The first icon is called the **Info** Icon. When a punctuation error is found, clicking on this icon opens a Reference window giving more information about the error. If you click on the Info Icon when a phrase error is found, the Reference window displays only the faulty phrase and the type of error.

The second icon is the **Lookup** Icon. When the Document window displays a suspect phrase, clicking on this icon opens the file containing the group of relevant phrases and displays the suspect phrase and its alternatives. You can delete the phrase, edit the suggestions or add your own suggestions. When you quit the program, you can save these changes or discard them.

The third icon is the **Check** Icon. Clicking on this icon checks a phrase in the Text Edit box to see whether it is a suspect phrase before you enter it into the document. If you don't use this option and enter another potential problem, Sensible Grammar will still find it and display it. There seems to be no point in using the Check Icon.

The fourth icon is called the **Phrase Exceptions** Icon or PHR Icon. Its purpose is to enable you to tell Sensible Grammar to ignore a phrase temporarily without deleting it permanently from the phrase group. When a suspect phrase is displayed, clicking on the PHR Icon places the phrase in a special Phrase Exceptions file. Sensible Grammar automatically ignores any phrases in this file, provided that the Use Phrase Exceptions command in the Check menu has been selected (as described later). You can save this file for future use if you wish.

The fifth icon is called the **CAP** Icon. When the program finds and displays a word with mixed upper and lower case letters, clicking on this icon adds the word

to the phrase group called Capitalized Exceptions. Further instances of this word in the same document will be ignored. When you quit the program, you can save any changes or discard them.

When the program reaches the end of the document, it offers you the option to keep the changes made to the file. (If you have made no changes, it simply closes the file). If you click on the close box before reaching the end of the document, you are asked whether you want to save the changes. Unless you click on the No button, the modified version of the file is saved and the original version is retained with the suffix .old.

The Checking Document window and the Progress window are then closed automatically and the screen displays the **Readability Analysis** window. This shows the total number of sentences, the total number of words, the average sentence length and the average syllables per word. It also shows the reading ease, ranging from very easy to very difficult.

This window also displays three bar charts. The first shows the percentage of adults in the U.S. that can read the document comfortably. The percentage is based on the average sentence length and syllables per word. A low reading does not mean that most people would be unable to read the document. It means that they may struggle and will have lower comprehension.

The second bar chart shows the U.S. school/college grade level, ranging from 4 to 17. People are most comfortable reading between their grade level and two grades below.

The third bar chart shows the percentage of human interest. The percentage is based on the proportion of personal words and personal sentences in the document. The bar chart has a summary word above it, ranging from dull to dramatic, based on the percentage.

The manual warns that the statistics can be misleading for documents with fewer than 100 words. Charts, tables and headlines can affect results too.

When you close the Readability Analysis window, the **Homophones** window is displayed. Homophones are words that sound alike but are spelled differently, e.g., to, too and two. (If the program did not find any homophones, this window is closed automatically when the document is closed.) Incidentally, you can view this window or another open window without first closing the Readability Analysis window. You can click in it to bring it to the top or select it from the Window menu (as described later).

The Homophones window displays a list of all instances of any of the words in the homophones file. If the program were to stop at each one as it read the document, it could be irritating, so the program records the instances in this window. You can then scan the list or ignore it. Sensible Grammar does not tell you whether you have used the correct homophone; it's up to you to decide.

When you close the Homophones window, the screen displays the **Excessives** window (if any excessives were found). This window lists all instances of words with more than 4 syllables, sentences with more than 30 words and paragraphs with more than 8 sentences. You can change these maximums (as described later). Scanning this window may help you to assess the scope for improving the readability of the document.

If you have used the Error Log button to compile an Error Log file, you can view the file by choosing the Error Log command from the Windows menu.

When you close each of these last three windows, you are asked if you want to save the contents. You can prevent the program from asking this question by using the Verify Supplemental Windows command in the Options menu (as described later).

You can print out any of the windows before closing them.

Having checked the document, you can then revert to your word processor, load in the modified file and use the find or search command to look for any marked faults. After correcting the faults, you can print and save the file and delete the old version.

The manual points out that Sensible Grammar's suggestions will not always be right. There may be times when the original words are correct. For example, in this review it suggested that the sentence *Near the top of the Checking Document window are five icons.* should have the singlar verb *is* instead of the plural *are* it assumed that the singular *window* was the subject of the sentence because it preceded the verb.

Sensible Grammar may not find all your grammatical mistakes. It identifies only the suspect words and phrases in its check lists. It won't find verbs in the wrong tense, it won't always find misplaced words and it won't find poor sentence structure. However, you can tailor it to your own requirements by adding or deleting phrases from the check lists.

Many of the items in the check lists are biased towards American rather than British users. For example, it covers all the states in the U.S.A. and some U.S. cities but it does not cover British counties or cities. Of course, you could amend the lists.

It also has American spelling so if you use the phrase *behaviour pattern* it will not find this in its Redundant Phrases file where the spelling is *behavior*. In this review, it came across the phrase *the program moves on to look for the next error* and it suggested *onto* instead of *on to*. However, you could change the files with a spell checking program.

Now let's turn to the other menu commands. As well as the usual commands, the File menu has a command called Launch which allows you to start up another program without returning to the Finder. When you quit that program you return automatically to Sensible Grammar. Sensible Speller works all right under MultiFinder but if you don't have enough ram for Multifinder, the Launch facility may be useful.

From the Check menu, you can specify which checks Sensible Grammar should do. You can choose Check All or you can choose any of the options to check Phrase Usage, Mechanics (i.e., grammar), Homophones, Punctuation, Readability and Excessives. You can also opt to use Phrase Exceptions, i.e., phrases which you have added to a special file by using the PHR Icon, as described earlier.

Four other options in the Check menu allow you to specify Auto-Mark, Auto-Fix, Auto-Replace and Auto-Log. The manual recommends you use these options with care because they are not foolproof. Auto-Mark is useful for teachers to help students. You can switch these options off during checking without waiting to reach the end of the document.

The Check menu also has a command to Save the current settings of the menu.

The Options menu has various commands that allow you to customize the program. In effect, these are the fine tuning commands whereas the commands in the Check menu are for coarse tuning. The first four commands allows you to change the Collection Options, the Mechanics Options, the Punctuation Options and the Excessive Options. Each command displays a dialogue box with various checkboxes and other options.

The **Change Collection** Options command allows you to change or specify the following items. Ignore lines beginning with a specified character. (The default is a full stop but this seems to be a hangover from Apple II versions of Sensible Grammar, designed for Apple Writer.) Change the minimum number of spaces between sentences. Change the character used to end paragraphs (normally $0D, return). Change the characters used as markers (the defaults are •• and √). Specify whether to keep the original document with the suffix .old, and whether to check phrase usage intuitively.

This command also allows you to specify which characters the program should collect. There is a scrollable list of all the ASCII characters displaying the hexadecimal value and the character in Chicago font. Alongside each character is a checkbox. If there is no cross in the checkbox, the program ignores the character. All the normal characters are checked, including letters, numbers, tabs and carriage returns, but you can set it to collect or ignore any character. This is an advanced option and the manual warns that, normally, you should not modify this table.

The **Change Mechanics** Options command allows you to switch on or off the following items. Article/Noun agreement (a, an), Adjective modifiers, Adverb modifiers, Case of subjects, Comparatives (less, more, worse, etc), Noun plurality, Object of preposition, Parallelism, Participles, Predicate complements, Pronoun case, Split infinitives, Superlatives (least, most, worst, etc), Verb agreement and Verb tenses.

The **Change Punctuations** Options command allows you to switch on or off the following items. Abbreviations, Capitalizations, Comma and restrictive modifiers, Comma splices, Dashes, Extraneous spaces between words, Hyphens, Isolated punctuation, Mixed upper and lower case letters, Punctuation with quotes, Repeated words, Too much punctuation and Unbalanced punctuation.

The **Change Excessives** Options command allows you to specify the maximum number of syllables per word, words per sentence and sentences per paragraph. When you check a document, if a word, sentence or paragraph exceeds the maximum set by this option, it is shown in the Excessives window, as described earlier.

The next two commands in the Options menu allow you to examine and amend the phrase lists and parts lists.

When you select **List and Edit Phrases** from the Options menu, a window displays a list of the 19 phrase files (Cliche Expressions, Compound Words, Expand Abbreviation, Expand Contraction, Faulty Phrases, French Expression, Generic Terms, Informal Phrases, Latin Expressions, Overly Formal Phrases, Personal Phrases, Racial Phrases, Redundant Phrases, Remove Legal Terms, Replace with Abbreviation, Replace with Contraction, Sexist Phrases, Vague Phrases and Wordy Phrases). You can select a file from the list and open it.

A window then displays the first few

phrases in the list. You can scan the list by using the scroll bars or the arrow keys. You can also print out the complete list.

Each suspect phrase is shown in bold face type and the suggestion is shown on the next line in plain text. If there are two or more suggestions, they are separated by <OR>. If you edit the entries or add new entries, you must enter the potential problem phrase in bold face type. The suggestions must be entered in plain text with <OR> between alternatives.

When you select **List and Edit Parts** from the Option menu, a window displays a list of the 18 parts files (Abbreviations, Capitalized Exceptions, Capitals: Special, Connectives: Adverb Conjunctions, Connectives: Coordinate Conjunctions, Connectives: Introductory Phrases, Connectives: Subordinate Conjunctions, Homophones, Human Interest Words, Modifiers: Adjective, Modifiers: Adverbial, Nouns, Numbers: Tens, Numbers: Ones, Personal Names, Prepositions, Phrase Exceptions and Punctuation Exceptions). You select a file from the list and open it.

A window then displays the first few words in the list. You can scan the list by using the scroll bars or the arrow keys. You can edit the items and also print out the complete list.

All the phrase files are normally held in a folder called Phrases and all the parts files are normally held in a folder called Parts. The names of these files and their locations are held in two other files called Phrase Group 1 and Phrase Group 2. These files are held in another folder called Phrase Groups. Two more commands in the Options menu allow to edit the phrase groups and to specify which phrase files to work with.

When you choose the Open Phrase Usage Group command, it allows you to open either of the two phrase groups. You can modify the phrase group to suit your own requirements. You can delete a phrase file from the list, add a new file, change the name of a file or specify a different location. You could create your own phrase group using files you have created yourself, perhaps with some of the existing files.

When you choose the Change Phrase Usage Group Index command, it opens a window displaying the phrase files. Against each file is a checkbox with or without a tick to show which files the program should use. You can delete ticks already displayed or enter a tick in any empty checkbox. Some phrase files are contradictory, e.g., Expand Abbreviation and Replace with Abbreviations, so they should not both be checked.

If you change the ticks in the checkboxes, you can opt to save the new version or to use the new version temporarily until you quit the program.

The final command in the Options menu is **Verify Supplemental Windows**. If this is checked, when you close the Homophones, Excessives and Error Log windows, you are asked if you want to save the file. If this command is unchecked, you can still save any of these windows with the Save command, but you'll no longer be asked before the windows are closed.

The Windows menu allows you to select which window should be uppermost. The windows listed are Checking Document, Excessives, Error Log, Homophones, Progress and Readability. The uppermost window is indicated by a tick mark. Some of the words may be dimmed if their windows are not open. Of course, you can also bring any window to the top by clicking on any visible part of it.

Space does not permit a full listing of all the words and phrases that Sensible Grammar suspects, but the following paragraphs list the phrases files with examples (and suggestions).

Cliche Expressions (98 items): *gainfully employed* (working), *only time will tell* (maybe) and *viable options* (choices).

Compound Words (662 items): *book keeper* (bookkeeper), *hot head* (hothead) and *trade mark* (trademark). This file also has some words that should be split. e.g., *bookclub* (book club), *hotrod* (hot rod) and *tradename* (trade name).

Expand Abbreviation (150): *asap* (as soon as possible), *n.a.* (not available) and *pmt* (payment).

Expand Contractions (50): *he'll* (he will or he shall), *she's* (she is or she has) and *you'd* (you had, you should or you would).

Faulty Phrases (203): *compare against* (with), *different than* (from) and *none of them are* (none of them is).

French Expressions (9): *au contraire* (on the contrary) and *tant mieux* (so much the better).

Generic Terms (6): *kleenex* (tissue) and *xerox* (photocopy).

Informal Phrases (400): *do away with* (dispose or destroy), *in the red* (losing money or in debt) and *on the go* (active or busy).

Latin Expressions (33): *caveat emptor* (buy at your own risk), *inter alia* (among others) and *prima facie* (at first glance).

Overly Formal Phrases (585): *attired* (dressed), *commence* (begin or start) and *terminate* (end).

Personal Phrases: This is an empty list to which you can add your own special phrases.

Racial Phrases (14): *chink* (Chinese), *dago* (Italian or Latin) and *negro* (black).

Redundant Phrases (385): *advance warning* (warning), *disappear from sight* (disappear) and *ultimate end* (end).

Remove Legal Terms (28): *hereinafter* (after this), *heretofore* (formerly or before or earlier) and *thereupon* (then). The Apple II version of Sensible Speller can convert both ways - to and from Legal Terms - but the Macintosh version can only remove legal terms. You could modify this file to create a 'Use Legal Terms' file to work the other way round.

Replace with Abbreviation (147): *February* (Feb), *miles per hour* (m.p.h.) and *ounce* (oz).

Replace with Contraction (65): *are not* (aren't), *it is* (it's) and *you are* (you're).

Sexist Phrases (147): *chambermaid* (room cleaner), *horseman* (equestrian) and *sportsmanship* (fair play).

Vague Phrases (224): *experience difficulty* (have trouble), *foreseeable future* (soon) and *take into account* (consider).

Wordy Phrases (632): *afford an opportunity* to (allow or permit), *despite the fact that* (although) and *present moment in time* (now).

To find punctuation faults, Sensible Grammar looks for such features as a full stop at the end of a sentence, followed by two spaces or a Carriage Return. If you accidentally put a full stop after a question mark, it detects the error. It also detects an unwanted space before a full stop. But it ignores full stops that are part of items in its **Abbreviations** file (305 items), such as *approx.*, *lbs.* and *U.S.A.* (but not *U.K.*).

It detects the absence of a comma when you start a sentence with a word or phrase held in its Adverb Conjunctions file (35 items): *however*, *in other words* and *on the other hand*. The same applies to words and phrases held in the **Introductory Phrases** file (175 items): *accordingly*, *in conclusion* and *on the contrary*.

It looks for a comma in sentences that contain one or more of the words or phrases held in the **Co-ordinate Conjunctions** file (13 items): *also*, *but* and *yet*. The same applies to those held in the Subordinate **Conjunctions** file (63 items): *although*, *in spite of* and *unless*.

Four other files are used to check punctuation and grammar. These are **Modifiers: Adjective** (671): *alive*, *loud* and *urgent*; **Modifiers: Adverbial** (266): *clearly*, *less* and *truly*; **Nouns** (575): *boat*, *egg* and *tree*; and **Prepositions** (58): *among*, *into* and *through*.

Sensible Grammar looks for a capital letter at the start of each sentence. If it finds a word starting with a capital letter but not at the beginning of a sentence, it checks against its **Capitals** file (238 items) which includes the names of the days and months (except *may*), countries, U.S. states and words like *Christmas*, *I* and *Vaseline*. It also has a file of **Capitalized Exceptions** (39 items) including *DeskTop*, *LaserWriter* and *MacWrite*.

The **Homophones** file (83 items) contains such words as *break* and *brake*, *forth* and *fourth* and *whether* and *weather*. It is used to compile the Homophones window as described above.

The **Human Interest Words** file (111 items) contains such words as *baby*, *he* and *woman*. The **Personal Names** file (302 items) contains a list of first names such as *Alex*, *Fred* and *Wendy*. These files are used to calculate the measure of human interest displayed in the Readability Analysis window.

The **Numbers: Tens** files (9 items from *twenty* to *ninety*) and the **Numbers: Ones** file (18 items from *one* to *nine* and *first* to *ninth*) are used to look for hyphens between compound numbers from *twenty-one* to *ninety-nine* and *twenty-first* to *ninety-ninth*.

Sensible Grammar expects to find three digits after a comma in a large number but it does not challenge large numbers that have no commas. It also checks for erroneous commas after the decimal point. It draws attention to the unnecessary second comma in *I must go, but, not yet*.

After a dash it accepts a colon but not a comma or a full stop. It detects excess punctuation in words like *her's* and *their's* but it treats *it's* as the contraction of *it is*, not as the possessive of *it* with a punctuation error.

It also checks for correct pairing of some punctuations marks. For instance, *("example)"* would generate the error message *Balance out of order*. It also checks for punctuation which should be inside or outside quote marks. The **Punctuation Exceptions** file has 7 words such as Apple // and Apple][so that Sensible Grammar does not report them as errors.

Last but not least, Sensible Grammar checks for repeated words as in *Paris in the the spring*. Some spell checkers do this, but not all, so this feature of Sensible Grammar may be helpful.

The version 1.5.0 I received for review had some minor problems so I wrote to Sensible Software in the U.S.A. They sent me the latest version, 1.5.2, which overcomes the problems. If you buy the program, make sure you get the latest version.

Sensible Grammar is not infallible and it will not turn a bad writer into a good one overnight. But if you use a Macintosh word processor and want to improve the quality of your writing, Sensible Grammar will be invaluable.

MacSoft

Bridge House • Wellington • Somerset • TA21 0AA
Phone 0823-663625 or 665834 • FAX 0823-663477

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Hypercard	40.25	35.00
Illustrator '88	488.75	425.00
InBox (Starter)	270.25	235.00
Just En. Pascal	60.38	52.50
Keymaster	90.85	79.00
King of Chicago	45.43	39.50
Laser FX	159.85	139.00
Laser FX Paks	44.85	39.00
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Artificial Intelligence

What Every Macintosh Programmer Should Know

by Anna O'Connell, P.E.

This is the first of two articles on Artificial Intelligence by Anne O'Carroll. The second article, to be printed in our next issue, will deal with the following:-

Why a Mac for AI?
How to get started in AI
Choosing a problem to solve with AI
Choosing an AI Development Tool
Where to look for more information

A lot of hype has been generated in the past few years about artificial intelligence (often shortened to AI). More heat than light has been generated, and there is still little common agreement about exactly what artificial intelligence is. One joke making the rounds in the industry is that AI is in the eye of the beholder, to academics, it is "Anything Impossible", to the military, it is "Anything Invincible", and to the sales departments of software firms it is "Anything Improved".

For the purposes of this article, we're going to define AI as any of a large collection of technologies that attempts to extend skills or attributes usually thought of as intelligent when seen in humans to computers. As programmers well know, computers are infuriatingly methodical devices that do *exactly* what you tell them; no more, no less. And they must usually be told what to do in excruciatingly small steps. Of course, once they have been correctly programmed, computers can perform calculation or sorting tasks very rapidly and with nearly-flawless accuracy. Humans, on the other hand, can sort among potentials (make decisions) in novel situations with insufficient data and no specific instructions. But they are notoriously slow and inaccurate at other types of tasks. Artificial intelligence attempts to make use of a computer's speed or accuracy to more effectively perform tasks that require some human judgement or intuition.

Several technologies that had their roots in AI research have grown sufficiently large to be considered disciplines in their own right. Speech recognition and synthesis, robotics and machine vision are now considered to be "mainstream" technologies — no longer part of the AI backwater. Their emergence from the laboratory into the factory was once attended with the same sort of hoopla we currently hear about AI.

"Knowledge engineer" is another term that is helpful to understand in discussing AI. A knowledge engineer is trained to develop AI systems, especially expert systems. The training usually includes one or more AI programming techniques or languages, familiarity with one or more expert system development shells, training in how to elicit knowledge from both published sources and "domain experts" — the people whose expertise is included in an expert system, and thorough background in one or more of the available techniques for structuring complex sets of information. The term was coined at M.I.T., and has come into widespread use throughout the field. An older term, systems analyst, is just as valid, if you remember that a systems analyst has always needed to be familiar with the specific programming techniques which will be used to implement the system being designed. Therefore, my definition of knowledge engineer is a systems analyst who has learned enough AI techniques to wisely choose and use an AI development tool.

AI Hardware

Specialized AI hardware has been a sink for the money and time of many venture capitalists and government agencies, and a source for many of the things that made the Macintosh one of the easiest to use and the most widely imitated microcomputer to date. To quote one of my favorite AI gadflys, Harvey P. Newquist III, "In the late 70's and early 80's, everyone with a Ph.D. in LISP programming from M.I.T., Carnegie-Mellon or Stanford formed a company, and there was enough venture capital floating around at that time to fund everyone with a business plan longer than an index card."

Pointing devices in the form of track balls, joy sticks, light pens, tablets, and mice were first developed by AI researchers. These items are now so common to micro and mini computers that it is widely considered to be impossible to market a computer for graphics oriented applications like games, CAD, or desktop publishing without them.

Another type of specialized AI hardware that is commercially available is processors optimized for executing LISP. Computers optimized for LISP were very expensive until recently — starting at $35,000 for a bottom-of-the-line, non-networkable station and rising rapidly to about $100,000 for a system fully equipped for research. Demand for these workstations was correspondingly quite low, and the market was pretty thoroughly saturated with a total of about 25,000 machines in the entire U.S.

AI development tools were once available only on

LISP machines, necessitating a painful porting process to distribute software to a more cost-effective hardware platform. In the way of all humans possessing painfully acquired experience (like putting the screwdriver through your thumb because you were using it as a prybar), many AI researchers came to feel that the tools they developed with so much effort were the only tools capable of doing the job "properly". And so, there are many people out there who will tell you that writing code in LISP, on a LISP machine, is the best way to "do AI". This may be an excellent way to do research, if you can get the necessary hardware and research grant support. It is a lousy way to develop a commercial product, unless your target market is AI researchers who already have LISP machines.

There are even some companies out there who are so desperate to sell LISP machines that they market them as a highly productive environment for developing procedure-based software. (I won't mention any names, but I used to work for a division of one of them.) Under the proposed scenario, the "rich working environment " of the LISP machine is used to "rapid prototype" the desired software. The newly developed software is then cross-compiled to the target machine and language — if a cross compiler is available. If no cross-compiler exists, the software is "rewritten in C or other procedural language". If C was a good choice for the final application, why not write it in C in the first place? And if the rich working environment of the LISP machine was an advantage, why not duplicate aspects of it on machines sharing at least a hardware architecture with your target application? The people selling this brand of snake oil did not have an answer when I asked the questions. Beginners and experienced programmers alike should "beware of AI geeks touting LISP".

Several makers of these computers have gone bankrupt in the past two years, and makers of software for them have seen lean times as well. It is for this reason that you will now see in the ads that such high-end AI development software as ART (the Automated Reasoning Tool) and KEE (the Knowledge Engineering Environment) are now available for Unix workstations or high-end microcomputers. Only the government and the largest of corporations could afford to pay $60,000 a copy for software that ran only on $90,000 computers, but almost any corporation (and some dedicated individuals) can ante up the $30,000 needed to get a fast '386 machine and a copy of PC-KEE.

Macintosh II Co-Processors

During 1988, both Texas Instruments and Symbolics announced the availability of their LISP microprocessor chips as add-in boards for the Macintosh II. The Texas Instruments product is co-labelled with Apple, and is called the micro-Explorer. It has been shipping since June of 1988 in moderate quantities, and currently sells for $28,000 complete with Mac II and the necessary RAM (2 Megs or more in the Mac, 4 on the Explorer board). The micro-Explorer board and software alone will set you back a mere $19,000 — somewhat less if you have a university purchase order. Contact Texas Instruments Data Systems Group (head office in Austin, TX — sales and service locations throughout North America) for more information.

The original microExplorer system software had what many Macintosh programmers would consider a fatal flaw — almost no access to the Macintosh toolbox and very limited hooks to other applications. With the latest software release from Texas Instruments, this has been corrected by the addition of a Macintosh toolbox interface developed for them by ExperTelligence. ExperTelligence gave the Macintosh world both ExperCommon LISP and ExperInterfaceBuilder — which taken together made two thirds of a what would have been a wonderful expert system development shell. I'm not sure why they didn't go on to develop a few inference engines to complete the shell, but I'm glad to see they have not been idle in the last year and a half.

The Symbolics MacIvory board and software were announced somewhat later, during the third quarter of 1988. This is probably due to the financially straightened circumstances Symbolics found themselves in when the bottom fell out of LISP machine sales back in 1987; because I'd heard of prototypes of the MacIvory being shown before TI officially started development of the microExplorer. As of early in the fourth quarter of 1989, they were not shipping production units, but did have a number of prototypes being demonstrated in the field. The price for the complete MacIvory system was announced as $21,900, and it is expected to ship in December, 1988. Available in March of 1989 will be a board and software set which does not include the Mac II (with 4 M of RAM) that is also required for a complete system. Price for this package is $10,900.

Neither Symbolics or Texas Instruments has ruled out making co-processor boards for other hardware platforms in the future, but both chose the Mac II because of the ability of the NuBus architecture to accommodate multiple processors operating independently. (And, rumor has it, development seed money from Apple that ran to seven figures.) Texas Instruments uses NuBus in their entire Explorer series of machines, and in their new line of Unix computers as well. The NuBus standard was developed in a cooperative effort between TI and M.I.T., and is licensed to Apple for use in the Macintosh II and subsequent computers.

AI Software Techniques

There are several types of software associated primarily with AI. These include the specialized languages, LISP and Prolog; object oriented programming environments; such specialized software development tools as production rule systems, inference engines and expert system development "shells"; natural language parsers and NL generating systems; and knowledge representation systems such as semantic networks and hypertext. Each of these was originally developed in the process of researching some area of artificial intelligence. A variety of each type of software is currently marketed for the Macintosh.

LISP, which was named from its intended function of LIST Processing, is one of the oldest computer languages still in common use. It is also one of the richest, with nearly 10,000 functions being defined as part of the standard for Common LISP. The language uses a single data type, the list. A list is

recursively defined as a series of elements, each of which is either a list or an atom. An atom is a single element that cannot be further subdivided. The definition of list is said to be recursive because it mentions the thing being defined within the definition. Recursion is a concept strongly supported in LISP, and found to be useful in solving many programming problems.

In Europe and Japan, the majority of AI programming was done in Prolog. According to recent report from Edward Feigenbaum, this is no longer as true. Prolog as a language is rather severely limited as to the knowledge representations available within it. Because of this limitation, no higher level tools (expert system development shells) have been successfully based on Prolog.

A Prolog program consists primarily of assertions which are stored in a knowledge base. These assertions may or may not be organized into frames, depending on the knowledge base and the language implementation being used. These assertions (and retractions of assertions) are searched in a backward chaining fashion in response to questions posed by the user of the program. The language has its' own inference engine built into it. For more on inference engines, see below. For more on Prolog, see Clocksein and Mellish

Inference Engines

Inference engines are usually provided as part of expert system development "shells" or "environments". They are of two basic types — forward chaining and backward chaining, for the route that is followed to form an inference in each type. Both types of inference engines operate on knowledge represented as IF <predicate>: THEN <consequent> rules. This structure is called a "production rule" in AI work, because some of the earliest work was to design programs that "produce" or "infer" rules of this type from properly formatted examples or cases.

In forward chaining the inference engine works forward from known or asserted predicates to derive as many consequents as possible. This frequently results in what is referred to as combinatorial explosion. So many consequents are inferred by the system that the significance of any one of them is lost in a blizzard of information. Forward chaining systems are frequently slow to reach a desired conclusion because of the large number of individual inferences made. There are some methods for limiting the combinatorial explosion of forward chaining inference engines, and thus improving their performance.

In backward chaining, the inference engine works backward from a (user or program supplied) hypothesized concluding consequent to locate predicates that support it. When a supporting chain of rules contains predicates whose truth is not known by the system, the user is queried for the status of that predicate. This is frequently called "goal driven" or "goal seeking" inference. The majority of diagnostic or classification expert systems are based on backward chaining inference.

Model Based Reasoning

In addition to inference engines that process rules, model-based reasoning is also used in developing AI systems. In this technique, a model of a problem space is built up within an AI program. The modeling techniques used can include mathematical descriptions, rules, frames, scripts, object oriented techniques, event simulation, semantic networks and hybrids of these. A reasoning mechanism appropriate to the modeling technique is chosen and a reasoning sub-program is developed. Some method of initializing the model to correspond to a known status of the real world is required. The techniques for initializing a model range from typing answers to queries through "symbolic spreadsheets" to on-line data acquisition.

Model-based reasoning normally requires substantial development work on both a model and an inference engine, and therefore is not widely used as a foundation for packaged AI development shells. One exception to this general rule is Paladin Software, which used model frameworks designed for both corporate finance and manufacturing operations applications in its major products. These programs (Finance Advisor and Operations Advisor, respectively) require only moderate customization for the users' operations, and originally required LISP machines as a platform. They have been ported to Sun workstations, and may soon be available for other Unix systems as well. I am not aware of any model-based reasoning systems commercially available for the Mac, but I'd be happy to hear if someone out there is developing one.

Expert System Development Shells

Some expert system development shells support only a single mode of reasoning, and some have separate inference engines for each mode, allowing the knowledge engineer to choose the most appropriate reasoning technique for a given application. Other features common to expert system development shells include rule editors, hooks to external software packages such a data base management systems, and the ability to include help or graphics in pop up windows. Some recently developed expert system shells include hypertext features, or hooks to HyperCard.

Knowledge Representation

In addition to the inferencing technique used, the other distinguishing characteristic of expert system development shells is their method(s) of representing knowledge. Nearly all shells support knowledge represented as IF <predicate>: THEN <consequent> rules. This is an efficient representation for many kinds of knowledge, especially diagnostic, classification and policy application applications. Some shells allow certainty factors to be attached to the consequent, allowing for expression of concepts such as "usually", "most of the time", or "hardly ever". Other forms of knowledge representation are available which are more suited to other applications. Commonly available forms of knowledge representation include meta-rules (rules about using rules), pattern description and matching, object oriented systems, and semantic networks.

One approach used for simplistic applications, is an "examples" spreadsheet, from which the expert system development shell will derive rules. These rules are then processed by an inference engine to

reach conclusions or diagnoses. This is a specialized form of pattern representation and matching. This "rule inferring" approach purports to make the knowledge engineer unnecessary, and it succeeds for simple applications. When the application is more complex, the domain expert still needs the knowledge engineers' skills of complexity management and completeness checking to succeed in developing a useful expert system.

Semantic networks, object oriented programming systems, and hypertext are loosely related as concepts for knowledge representation. In many ways these forms of knowledge representation are more suited to supporting model-based reasoning than either inference or rule induction. The model-based reasoning need not be built into the program that uses these knowledge representations. It may be the knowledge engineer who reasons about the model in order to structure knowledge needed to solve the problem in a form that can be processed efficiently by the computer. Or it may be that these forms of knowledge representation are used to build a model that the user will query for explanations, but that is not used by an inference engine to reach a conclusion or diagnosis. Much current research focuses on developing a model of the learning process in order to improve the explanation facilities within rule-based expert systems or to develop "expert tutors" which can train users in applying both specific facts and defined reasoning techniques.

The three techniques discussed above represent knowledge in the form of linkages among objects. Objects in each of these forms of knowledge representation differ in their possible characteristics and the way in which they are defined and stored by the computer. The types of linkages also vary from representation to representation and from implementation to implementation within a specific knowledge representation system. Hypertext in the form of HyperCard is probably the most familiar of these knowledge representation techniques for Macintosh users. Those of you who program the Macintosh are also familiar with object oriented programming systems in the form of either MacApp or some flavor of C++.

Why Use AI?

There are two reasons a programmer would want to learn about AI techniques. The first is sheer intellectual curiosity. The second is that these techniques are sometimes the easiest way to achieve a desired result within a program. Oh, yes, there is a third reason; someone has offered to pay you lots of money for an AI-based program, either because they really need AI or because they want the latest trend in technology.

Intellectual curiosity is the primary driver of sales of the less expensive language packages and expert system development shells. You can pick up very useable, public domain versions of LISP and Prolog off the networks or from user groups. There are a few expert system shells for less than $100 — and a few more for less than $150. This is not what I'd call cheap, but it is a much more reasonable price for indulging your curiosity than spending $5,000 for Nexpert Object or $28,000 for a microExplorer. A frequent side effect of this type of experimentation is enhanced understanding of your own (or other people's) thought processes. It is very difficult to write a program that will simulate a process that is completely undefined. Therefore you will need to learn about thinking, diagnosis, or decision making in order to write programs that do (or simulate) these things convincingly.

The "it does what I need it to do" is a particularly good reason for including AI-based features in a program under development. A recent example was released in an Adventure-type game called Crossbow. The AI feature in this game was that the monsters "learned" a players' favored tactics through collective experience. The monsters would quickly change their own behavior to avoid those situations and actions that had resulted in the destruction of a previous monster. The player has to come up with new and different ways to defeat each monster. This makes the game progressively more challenging to the player, and helps to increase the "life" of the product in the market place.

Similarly, if your user needs to be able to input commands in (approximately) English, AI techniques for natural language understanding are available, and appropriate for inclusion. There are even speech comprehension products available (although I know of more for the DOS world than for the Mac so far).

And if your client needs to uniformly apply a set of policies across a variety of locations, an expert system can generate recommendations for each location which will result in a consistent and fair application of the rules to each situation which arises. This is especially valuable to such organizations as insurance companies (for both underwriting and claims adjusting) and banks (for assessing applications for credit). Any company whose inconsistent application of policies would leave them open to legal problems can benefit from AI applications of this type. I wish we could anticipate replacing most companies' personnel departments (human resource managers, beware!) with a set of expert systems to determine whom to hire for or promote into a particular opening based on rules about levels of competence and the assessments of those who currently perform the work in question. This is, unfortunately, far too obviously a good idea for most companies to take advantage of it unless forced to it by E.E.O. lawsuits. Determining (and stating) clearly just what the selection criteria for most personnel decisions are would be far too cynical for most organizations' morale.

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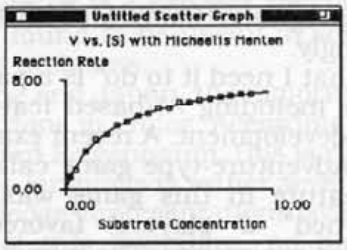

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The Software Encyclopedia

A Comprehensive Guide to Software Packages for Business, Professional or Personal Use
Published by R. R. Bowker
Price in US $179.95

The Software Encyclopedia 1989 is published in two volumes which together contain just over two thousand pages, listing twenty thousand software packages for the microcomputer.

Although the IBM PC family and MS-DOS compatibles head the list of operating systems, all of the Apple II family and the Macintosh family are included. Also represented are the UNIX and UNIX-like environments, CP/M and MP/M environments, Commodore 8-bit and Amiga, Atari 8-bit and ST, and the Radio Shack TRS-80 and Texas Instrument home computers.

The listings are sorted by title and publisher in one volume and by system compatibility and application in the other volume. One very helpful point is that both volumes give descriptions of the software and in addition to commercial software, shareware is also listed.

Thirty-eight major applications groups are listed, a selection of them being:- accounting, banking, database management, desktop publishing, games and entertainment, graphics, hobbies, integrated software, legal, marketing and sales, medical, personal computing, personal finance and budgeting, programming tools, real estate, spreadsheets, telecommunications and word processing.

This book is aimed at the the serious software buyer with a commercial interest rather than the home user of microcomputers who is only interested in software for his specific machine. It would also be an interesting book to browse over in a library if a home user was hoping to purchase a certain type of program and wanted to be sure that information was gathered on all the programs available that would do the job, and the publishers section does list the addresses and phone numbers of the publishers.

No actual reviews are contained in the book, but what it does have are the system requirements for each package and short but very descriptive explanations of the purpose of each software package. All of the major programs are listed and it is very interesting to see how they have been adapted to many different systems.

The publishers point out that if a user is searching for unusual or esoteric software, then this publication can be helpful. Examples of some of the more unusual programs are :- Momars by Allied Support. This $3,495 program for the Apple Macintosh family is a Medical Office Managements & Accounts Receivable System; Molarbyte Manager, a dental office management program by Molarbyte Data Systems, an $850 program for the Apple Macintosh Plus; Residential Cooling & Heating Loads Program: RHVAC. This $395 program by Saleem Chaudhary, published by Elite Software Development Inc., is for IBM and compatibles, and calculates heating and cooling loads on buildings with as many as 100 zones and 100 air systems.

The publishers have added approximately four thousand new titles since the last edition.

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Network News

The latest news, tips and gossip from the networks.

From Usenet

From: Daniel Ranson
Subject: **The international Macintosh**
Apple has already done a lot to make the Mac international, but there are yet many weaknesses that hurt even European users that use the same roman script. I don't expect the following wish list to make it into System 7.0, but I hope it will trigger some deep thinking.
+ The current system of international resources is flawed. It is too rigid to accomodate smooth localization to European langages. Consider for instance abbreviated dates. One cannot expect to abbreviate a month name by taking the first n letters! In French, n =3, but since this gives an ambiguity between Juin (June) and Juillet (July), the forms JUN and JUL are used instead of JUI. The itl resources cannot do that.
+ We need better guidelines and support for keyboard use. Most US software has dependencies on the US keyboard layout that cripple it when used with other keyboards. Does Apple realize that even System software has such dependencies? Just to name two, Command-period (to cancel printing) and Command-Option-W (to close all Finder windows) cannot be typed on most non-US keyboards. Hypercard alone has dozens of keyboard commands that don't transpose easily to other keyboards. MPW has some too.
+ The Mac should not only be international, but MULTInational. Even on a French System, I should be able to type a US style business letter, with dates in the US format. Users need utilities to put several sets of international resources in their System, and developers need support to use these resources. I know of one multilingual word processor in which you can assign a langage to a selection (as you would assign it a style). We need something like that, but System-wide.
+ Now that IPC is around the corner, how about defining a standard interface for spelling checkers and hyphenators? They could be purchased seperately from word processors or similar systems, be shared between applications. And international users would not have to wait for localized versions. Obviously, some connection with the "langage as style" concept would be needed.
Daniel Ranson

From: Eric Keller
Subject: **Caramba Bawamba!**
In a recent issue of MacUser magazine, Jim Seymour dropped a bombshell for all programmers interested in converting their Mac programs for use in the five times larger IBM-compatible market. I quote:
"Put simply, Apple has raised a lot of hell about people who make it easy to get supposedly Mac-like stuff onto PCs. Just ask the house counsel at Hewlett-Packard and Microsoft, who are still slogging through the pretrial paperwork of Apple's interface-infringement suit against them.
All the foregoing is very much in my mind as I ponder Apple's probable reaction (at least internally) to the shipment by Bawamba Software of a new package of conversion utilities that allow Mac developers to port their Mac programs more or less easily over to OS/2 and DOS.
Even worse (from Apple's vantage point) is that the programs, once converted, come up on IBM PC screens not under the OS/2-Presentation Manager interface or the DOS/Windows interface—but looking and feeling (if you'll forgive the expression) just as they did on the Mac.
Ouch!
Bawamba's Multiplatform Compatibility Package (mercifully, MCP) is a grabbag of about 600 C-language subroutines that provide to the PC the "services" in the Mac's ROM.
The more closely a Mac program follows Apple's recommended programming guidelines, the more easily it converts to the worlds of DOS and OS/2.
Double ouch!
Needless to say, the Bawamba package has attracted a lot of attention in the developer community. I don't have any word yet on how buggy this software is or on performance comparisons for converted programs running on PCs versus those same programs running on their native Mac, so let's not go too far with this."
Does anyone have Bawamba's address and phone number? Despite the "lot of attention", this is the first I've heard of this Bawamba Wonder.
Eric Keller
Universite du Quebec a Montreal

From InfoMac

From: DERIDDER
Subject: **1 Mbyte SIMMs**
Hello
At our department we have developed a 1 Mbyte SIMM. Does anyone know a place in EUROPE where we can obtain printed circuit board with a thickness of 1.3 mm (1/20").
Kees.
Free University,
Chemical Dept.,
de Boelelaan 1083,
1081 HV Amsterdam,
the Netherlands.

From: Peter Nardi
Subject: **Amateur Astronomy Software for the Mac**
Could anyone recommend a good astronomical program for the Macintosh. I would like to be able to perform time conversions, calculate RA & DEC for celestial bodies and various other useful amateur astronomer calculations. Two programs I've read

about in Sky & Telescope Magazine are: "Voyager, the Interactive Desktop Planetarium" and "Sky Travel Planetarium by Deltron". Does anyone have any experience with these programs, or know anyone that does? Any help would be greatly appreciated.
Thanks for your time.
-=<Pete>=-
Pete Nardi
Naval Postgraduate School
Monterey, Ca.

From: Jon Newman
Subject: **SuperClock 3.3 bug**
>Jon Newman writes: "I think I have found a bug in SuperClock 3.3. When I clear the check box for the new "chime" item, my Mac crashes." (etc...) Are you using the GateKeeper CDEV, Jon? If so, it will cause the problem you mention. <
Yes, I suppose it would. Sorry, though, GateKeeper crashed everything I have and I dropped it from my system long ago. By the way, I have received one confirmation of SuperClock's bugginess, although I still can't guarantee the problem is not incompatibility with some random INIT.

From: Les Ferch
Subject: **Word 4.0**
One improvement I've noticed is that Word now does a much better job of handling margins in Word<->MacWrite conversions. Unless I'm missing the obvious, it seems to me Microsoft put the "Number From.." in the wrong place. It is in the document format menu, whereas in the IBM Word 4.0, the same feature is under division format (the equivalent on the Mac being "Section" format). With "Number from" in document format, how in the heck are you supposed to skip a few page numbers in the middle of a document for later manual insertion of some figures? On the IBM version you just put in a division (section) break and change the "start number" for that division. And another thing. I miss the [x] for clearing all tab stops - you are now forced into doing it by choosing normal style, but this resets your font and size to whatever you have "normal" set to. The [x] in "short menus" acts the same as selecting "normal" style in "full menus". Overall though, Word 4.0 is a big improvement over Word 3.0x. I really can't see any reason not to use Word, except for people who need a smaller program.

From: Michael Hanrahan
Subject: **Current directory & disk**
In the Mac digest I received Thursday, June 1, there were a few questions on determining the current working directory, etc. using the File Manager routines. I guess I'm not the only one who would vote "The File Manager" chapter in Inside Mac Volume IV the single most confusing piece of published material ever written.
I have a couple of questions related to that which hopefully aren't just restatements of those same questions.
1) From within an application, how could one determine the reference number of the directory (folder) in which the application is stored? I am aware of the GetAppParms procedure (described in Chap 2, Volume II) but it returns a reference # for the path to the RESOURCE file being used by the application. (Note that since the application's resources are typically stored in the resource fork of the application, this ref # is essentially the ref number for the application itself.) However, if I understand the File Manager chapter in Vol IV correctly, a "path" to a file is NOT the same as the volume reference for the disk/folder containing that file. Is this correct? How could one find the vol ref from the path ref?
2) The File Manager chapter (in both Volume II and IV) describes two routines, GetVol and GetVRef which can be used to get volume reference info related to a disk or file. For reference, the Pascal declarations are shown below...

```
FUNCTION
GetVRefNum(pathRefNum:INTEGER;
VAR vRefNum:INTEGER):OSErr;
FUNCTION
GetVol(volName:StringPtr; VAR
vRefNum:INTEGER):OSErr;
```

From my efforts at using these, it appears that if one uses GetAppParms to find the path reference to the application's resource file and pass it to GetVRefNum, that function will set vRefNum to a number which indicates the physical drive on which the file associated with pathRefNum resides. Regardless of what a SFPutFile or SFGetFile dialog brings up as the current directory, vRefNum is always -1 if the application was stored on the internal hard drive, -2 if it was on the internal floppy, etc.
When GetVol is used, vRefNum DOES change as one changes the current directory via SFPut or SFGet. I was encouraged by this but, as a test, I tried calling GetVol while in directory A and stored the returned vol Ref in the global variable theDir. I then used the Open item in my program to load a file in some other directory, (presumably setting the current directory to that other directory) then called a procedure which contained the statement

```
theError:=SetVol(nil,theDir)
```

Upon return, theError equalled 0 (meaning no error) yet when I tried opening another file, I was NOT back in directory A. (Note that SetVol is designed to use either the first OR the second parameter to set the default volume, hence the nil pointer.)
I guess my question comes down to this: Can information about the current directory & related stuff be determined using the "high level" File Manager routines or does this require the use of the lower level PB_____ routines?
Thanks in advance for any pointers (no pun intended) you can supply.
Michael Hanrahan
Educational Computing Services
Washington University
St. Louis, MO 63130

From: R. C. Davis
Subject: **Help!!! Strange behavior noted while loading INFO-MAC archives...**
Hello, MacUsers!
I have a serious concern with my recently purchased Mac Plus (w/ 68020 add-on). Last week I un-Stuffed (thanks Ray!) some archives from Info-Mac. The archives in mention are SCSI Bus, Staircase 1.0.3, SuperClock! 3.3, Spy!, TappyType, and Windows. I promptly ran Disinfectant to check for viruses on the floppy they were on. I also have GateKeeper installed, and it didn't detect any virus- like behavior.
I proceeded to place these INIT/Cdev's in my hard disk's system folder to "try them out." (BTW, I'm running on System 6.0.2.) I noticed when I looked at Staircase

from the control panel, there was no "help." And there was no indication what exactly this thing was supposed to do; just an advertisement about some software to be available soon. So I proceeded to take it out of my System Folder.
I don't remember exactly the sequence of events that happened, but I think after trying to use Staircase...
1. I could not launch a program by clicking a document created by that program UNLESS the program was in a window open on the desktop. This was not the case UNTIL I put the above mentioned stuff in my System Folder. (Note: this did not change when I tried to boot my Mac from a floppy in the internal drive.)
2. A few of the icons changed to the "generic" icon (blank document page for cdev's, "MacWrite"-like icon for applications). If I tried to copy an INIT or Cdev from the floppy to the hard disk, the icon of the copied program (on the hard disk) would be the "generic" icon. No other items in the System Folder were changed — only items that are added are changed ... except the follwing...
3. All MacWrite (I'm using v4.5) documents on the whole hard drive where changed to the "generic" document icon (blank page). They were still MacWrite documents, though.
Well, I deleted all these new items and tried to figure out what happened. I went to Dallas over the weekend, but in thinking about it I can't understand what happened. I'm just a MacNovice, and since the Mac was purchased used without documentation (I know, but since it was in very good shape and at the price it was hard to pass up!), I just can't turn to page N in the manuals and do this and that (BTW, if anyone can tell me where I can get these, I'd appreciate it!)
One thing that was pecular was that when I copied Staircase to my hard disk, it sure took a long time (especially for a 25K file). Today, I copied Staircase to my hard disk again, then looked at the size of the files using Disk Librarian. When I copied Staircase, the unusually long time to copy got me suspicious. The space used had really jumped. What had happened is that the invisible file Desktop had increased in size 32K. Isn't this unusual?!
Please, if you have any suggestions or comments SEND/MAIL THEM DIRECTLY TO ME. I need to figure out this problem A.S.A.P., the Mac will be used heavily in coming weeks ....
Is this a new "virus"? Or is this something much simpler and easier to take care of?
Again, thanks for any help.
Ricardo Davis
Dept. of Chemistry
Texas A & M University
College Station,
TX 77843-3255 USA
Quote for the day:
"The spirit of man is more important than mere physical strength, and the spiritual fibre of a nation more than its wealth."
Dwight D. Eisenhower

From: Cecil N. Jones
Subject: Info-Mac Digest V7 #95
>Subject: **Looking for Geological materials for MACs**
I am interested in finding any available material, that runs on a MAC, which would be useful for teaching Geology and/or Paleontology. I would be interested in any graphics, MAC programs or HyperCard stacks. Please respond directly to me, since I don't normally read this list. Thanks in advance for any leads. >
Art Berggreen
Advanced Computer Communications
Santa Barbara Street
Santa Barbara, CA 93101
Here are some companies which sell geological software. I don't know anything about their products. Some may not be available on the Mac, but some are. I don't know if they would be suitable for teaching purposes.
Computer Systemics
806 Hill Wood Drive
Austin, TX 78745
geoLogic systems, ltd.
1325 South Kihei Road, Suite 200
Kihei, Maui, Hawaii 96793
808-879-7796
Geotech Computer Systems
7338 S. Alton Way
Suite 16F
Englewood CO 80112
303-740-9432
RockWare, Inc.
4251 Kipling St. #595
Wheat Ridge, CO 80033
303-423-6171
Cecil N. Jones
Amoco Production Co.
Tulsa, OK

From: Theodore A. Morris
Subject: **MS-DOS CD-ROM databases on Macs**
Disappointingly few CD-ROM database publishers are releasing MacOS-version search software for their database disks. Even though the disks are in High Sierra format (and thus the data, itself, is "readable"), they perceive the Mac as a "secondary" market which they'll get to "later this year" or "soon." I was at the Medical Library Association Annual Conference last week in Boston, and although CD-ROM databases were all the rage, only one, small, vendor had Mac-version searching for his Medline CD-ROM disks.
Well, fools rush in...
A sister organization is contemplating the purchase and installation of the SilverPlatter "MultiPlatter" package, a 6-disk jukebox with up to four Ethernetted MS-DOS boxes for searching. We're already working up a 9-workstation Mac Ethernet, so...
To pick up on the learning curve, we've borrowed an Apple CD drive from our local Apple District office. We're also using a Mac II (our IIx is tied up right now), 4Meg, 40M HD, and SoftPC 1.3. We've gotten so far as to get SoftPC to recognize the CD-ROM drive/diskvolume as an MS-DOS-readable drive volume, and gotten the database publisher's search software loaded into the MS-DOS partitions under SoftPC appropriately. The MacOS recognizes the High Sierra-format data disk in the Apple CD Drive (at least, it comes up in the desktop and SoftPC recognizes it's subdirectory (folder) names.
Now comes the rub (we're so close!). MS-DOS search software expects to have to rely on the Microsoft CD Extensions (MSCDEX.EXE) to talk to the CD drive hardware. As far as SoftPC itself is concerned, MacOS has taken care of making the connection to the CD drive. The particular publisher we got this database from supplied HITACHI.SYS for their Hitachi-bundled drives; I think the Apple CD Drive is a Toshiba.
1) Can we fake MSCDEX.EXE into not bothering with looking for <drive>.SYS? 2) Can we obtain a

<AppleCD/Toshiba(?)>.SYS?
3) Can we stand to have MacOS trying to interface with the CD drive, and MS-DOS-under-SoftPC trying to, also?
If we can solve these problems, I think we'll have opened up a LARGE market for what is currently an under-served population. If anyone has any insights, or a device driver <driver>.SYS we can try, please let me know. Meanwhile, we've got our Apple folks checking, Insignia (publishers of SoftPC) checking, and will call MicroSoft if we have to!
Thanks in advance for any help/comments.
Ted
Theodore A. Morris,
Univ. of Cincinnati
Med. Ctr. Information & Communications
231 Bethesda Avenue,
Cincinnati, OH

From: Marshall McCall
Subject: **astronomy software**
Recently, there was a request on Info-Mac for information about astronomy software. I made a similar request some time ago, so I thought it was time I conveyed what I have learned.
First, I have been using "Voyager: The Desktop Planetarium" with a Mac SE/30, both for fun and for educational demonstrations (with an nView Viewframe II+2). Voyager is an outstanding piece of software. Besides enabling one to look at the sky at any time from any place in the solar system at any speed, it is possible to examine the orbital motions of all the planets and one extra body of choice (the orbit can be programmed). >From the standpoint of a university educator, Voyager is revolutionary. A wide variety of astronomical concepts can now be ANIMATED in the classroom. Furthermore, the program is so well designed that the keyboard isn't even necessary. It is possible to execute classroom demonstrations under mouse control only, so the keyboard need not be carried to class. More comprehensive reviews of Voyager have appeared in Sky and Telescope and MacWorld. At the price of $100, you can't go wrong. Buy it from Carina Software, 830 Williams St., San Leandro, CA 94577, 415-352-7328.
Second, Professor Larry Staunton at Drake University has developed several astronomical demonstrations in Basic. After some frustration with Fortran, he chose Basic because of its speed, graphics capabilities, and accessibility to students. The user interface is simple and the animation effective. Demonstrations include Kepler's Laws, retrograde motion, and two and three body orbits. His software may be used as a template for developing further demonstrations (I plan to develop one to demonstrate parallax and proper motion). A brief description of his work appears in Wheels of the Mind, Vol. 4, No. 2, 1988.
For more information, contact Larry Staunton, Department of Physics and Astronomy, Drake University, Des Moines, Iowa 50311, 515-271-3033, Bitnet LS7301R@DRAKE.
That's the limit of what I know now. Presently, I am looking into using VideoWorks II and Wingz for further development of animated demonstrations. Any more information about astronomical software or software which might be applicable for developing astronomical demonstrations is always appreciated.
My address is
Marshall McCall,
Department of Physics,
York University,
4700 Keele Street,
North York,
Ontario M3J1P3,
Canada

From: R E WING
Subject: **IBM Mouse Balls**
I thought all of you might get a kick out of this memo, which was forwarded to me today.

Sub: Big Blue Mouse Balls!!!
FILE: MOUSE BALLS AO (IGL191) 05/05/89 06:28:03
PAGE 1
ESD PRODUCT SERVICE SUPPORT SUBJECT:NEW RETAIN TIP
Hi,
The following was forwarded to me by a friend who used to work at Big Blue and was given this by a Big Blue friend who found it in the IBM service manual. This was actually put into the manual as a serious bulletin! Enjoy it!!!
Record number: H031944
Device:D/T8550
Abstract: MOUSE BALLS NOW AVAILABLE AS FRU (Field Replacable Unit)

TEXT:
MOUSE BALLS ARE NOW AVAILABLE AS A FRU. IF A MOUSE FAILS TO OPERATE,OR SHOULD PERFORM ERRATICALLY,IT MAY BE IN NEED OF BALL REPLACEMENT.BECAUSE OF THE DELICATE NATURE OF THIS PROCEDURE, REPLACEMENT OF MOUSE BALLS SHOULD BE ATTEMPTED BY TRAINED PERSONNEL ONLY.
BEFORE ORDERING, DETERMINE TYPE OF MOUSE BALLS REQUIRED BY EXAMINING THE UNDERSIDE OF EACH MOUSE. DOMESTIC BALLS WILL BE LARGER AND HARDER THAN FOREIGN BALLS. BALL REMOVAL PROCEDURES DIFFER, DEPENDING UPON MANUFACTURER OF THE MOUSE. FOREIGN BALLS CAN BE REPLACED USING THE POP-OFF METHOD AND DOMESTIC BALLS REPLACED USING THE TWIST-OFF METHOD. MOUSE BALLS ARE NOT USUALLY STATIC SENSITIVE, HOWEVER, EXCESSIVE HANDLING CAN RESULT IN SUDDEN DISCHARGE. UPON COMPLETION OF BALL REPLACEMENT, THE MOUSE MAY BE USED IMMEDIATELY.
IT IS RECOMMENDED THAT EACH SERVICER HAVE A PAIR OF BALLS FOR MAINTAINING OPTIMUM CUSTOMER SATISFACTION, AND THAT ANY CUSTOMER MISSING HIS BALLS SHOULD SUSPECT LOCAL PERSONNEL OF REMOVING THESE NECESSARY FUNCTIONAL ITEMS.

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Delphi is a commercial timesharing and bulletin board system. The Delphi Digests are made available thanks to Jeffrey Shulman of Rutgers University.

Vaporware

Murphy Sewell's collection of cuttings about forthcoming products

VAPORWARE

Murphy Sewall

From the July 1989 APPLE PULP
H.U.G.E. Apple Club (E. Hartford) News Letter
$15/year
P.O. Box 18027
East Hartford,
CT 06118
Call the "Bit Bucket" (203) 569-8739

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Who Needs OS/2?
Windows 3.0 (see February's column), scheduled for release in the fourth quarter of this year, will let MS-DOS applications run in as much as 16 Mbytes of memory. Beta versions require an 80386 processor, but the released product is expected to support '286 machines as well. The user environment is an icon-based shell similar to OS/2's Presentation Manager. Individual applications can address more than the 640K normally allowed by DOS using the processor's "protected - mode." Window's also can use disk storage as "virtual memory" on systems with less than 16 Mbytes of installed RAM. - PC Week 5 June

Real HyperCard under MS-DOS.
Spinnaker Software is beta- testing a Windows application that gives PC users full access to Apple's HyperCard environment. Unlike PC hypertext programs, Owl's Guide and Bright-Bill-Roberts HyperPad, Spinnaker's program, code- named "WildCard," will read and write Macintosh HyperCard "stacks" (transferred to MS-DOS disks or downloaded from on-line services). WildCard supports full-color bit-mapped images and, because it is compiled, is said to execute at least 40 times faster than the current version of HyperCard. WildCard is expected to be available in September for under $100. - PC Week 29 May

Forthcoming IBM Hardware.
As reported in this column (March '89), the 33 MHz PS/2, to be designated the Model 75, will have an enhanced MCA bus capable of 12 to 15 million instructions per second (MIPS) to be increased to 35 MIPS by year's end. Along with the Model 90 (a "tower" model designed to be a server), the Model 75 will have banks of 15 nanosecond cache memory and a 314 Mbyte hard disk. Models 75, 90 and (80386SX-based) 35 (see April's column) are scheduled for release this fall, and i486 versions of the 75 and 90 are anticipated in the first quarter of next year.

Next April, IBM will once again try to appeal to the home and education market (Son of PCjr?) with an under $2,000 80386SX computer featuring a 40 Mbyte hard disk, CD ROM, a digital sound chip, and Microsoft Windows. - InfoWorld 22 May and PC Week 5 and 12 June

The In-House Clone.
In a last ditch effort at survival IBM's typewriter division is rumored to be preparing to announce a product line code-named "Blue Grass," a low-end personal computer product assembled from imported components and priced well below the Model 30. In short, Blue Grass will be an IBM-PC clone with an IBM nameplate! - InfoWorld 5 June

Forthcoming Macintosh Hardware.
Apple is expected to offer a 25 MHz Macintosh IIcx (perhaps sporting a slightly different model name) with a built-in 8-bit color video adapter and a 030 Direct slot (see February's column), mainly for third-party cache-RAM products, as well as three NuBus slots in October (the date depends on the release of the required operating System 6.0.4). The new machine will allow users to add less expensive 1 by 9 memory modules and will only cost about $1,500 more than a similarly equipped IIcx. Early next year, the IIcx is likely to be superseded by a less expensive 16 MHz version of the new machine.

The next generation of the Mac II line featuring six slots of a 20 MHz NuBus implementation (double the present speed) and a 33 MHz 68030 will debut next January. A low cost Mac using the 16 MHz 68000HC processor that will be in the long delayed lapMac (finally coming in October?) is in the early stages of development. - MacWeek 23 May and 6 June

Multiplatform Compatibility Package (MCP).
Bawamba Software is beta testing MCP, a series of libraries that allow developers to quickly port their Macintosh applications to the MS-DOS, OS/2 and Unix environments. MCP incorporates the Open Look interface, developed jointly by AT&T and Sun Microsystems, in order to provide an alternative to the Macintosh interface and allay developers' fears of "look and feel" litigation. In the process, MCP makes the Open Look interface available on the Macintosh so that developers can design applications which look the same across all platforms. - InfoWorld 5 June

After NeXT.
There may be a NeXT machine with a Motorola 68040 CPU (merely a processor switch) in the interim, but the NeXT generation on the drawing board will use up to four Motorola 88000 RISC chips and feature a 1-gigabyte Canon magneto- optical disc with a 30 millisecond access time for mass storage. - InfoWorld 5 June

World's Fastest DRAM.
IBM's Yasu, Japan manufacturing plant has produced sample one megabit memory chips which are two to three times faster than current one-megabit RAM. The experimental CMOS chip has a 22 nanosecond retrieval rate compared to the 65 nanosecond rate of the one megabit chips recently put into volume production at IBM's Essex Junction, Vermont plant. - InfoWorld 5 June and Business Week 19 June

Versatile FAX.
This August Solutions Inc. will ship a custom version of its Macintosh Backfax software for the Tefax System from Relisys. The Tefax system integrates the functions of a FAX (attached to a Macintosh or stand alone), a printer, a scanner (200 dots per inch), and a modem (up to 9600 baud).
The $1,595 Tefax system uses an RS232C interface and is compatible with any 1 Mbyte (or more) Macintosh. - InfoWorld 5 June

Color Portables.
This month's leaders in the race to offer the first color laptops (see last December and January's column) are Sharp, Mitsubishi, and Toshiba. The screens are based on a thin-film, double-matrix transistor technology which provides high display speed and superior contrast in comparison to previous supertwist LCD screens. At $6,000, the 12 MHz 80286-based Mitsubishi with an 11 inch VGA screen will have the least expensive list price of the three. The 20 MHz 80386 Toshiba T5200 also has an 11 inch VGA display and is expected to have an $8,000 base price but cost up to 12,000 when fully configured. Sharp's 20 MHz 80386 model 8000 with a 14 inch, backlit VGA display, 2 Mbytes of RAM (expandable to 8 Mbytes), a 3.5 inch 2 Mbyte drive and a 40 Mbyte hard disk will cost about 10,000. - InfoWorld 29 May and PC Week 5 June

Coming Soon?
A more "Mac-like" Word Perfect (2.0) featuring most of the features of the MS-DOS version 5.0 is slated for year-end release. FullWrite Professional remains on schedule for year's end, but XyMac, based on XyWrite IV for MS-DOS which is expected in the fall, may be a long time coming. SAS Institute plans two Macintosh statistics products for late summer named JMP (Professional for about $500 and "Start" for less than $100). JMP features 3-D graphics, including the ability to rotate the graphics, and is a completely new program rather than a port of the well-known SAS statistics package. Letraset is considering splitting Ready, Set, Go! into two desktop publishing products (tentatively Ready, Set, Go! Plus and Ready, Set, Go! Professional).
A new Print Shop for the Apple // e, //c, and IIgs similar to the recently released new MS-DOS version is in beta-test and should ship by October. - InfoWorld 29 May and MacWeek 6 and 13 June

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Macintosh Technical Note #242
Fonts and the Script Manager

#242: Fonts and the Script Manager

Written by: John Harvey & Peter Edberg
June 1989

This Technical Note describes how the Script Manager uses the font family ID to determine a script code.

The traps _FontScript, _IntlScript, and _Font2Script all use a font family ID to determine the script interface system code that they return. This Note describes the process, the way the Script Manager renumbers the Chicago font for non-Roman systems, and the equation for calculating Script IDs from font family IDs.

On a Roman system the Chicago 'FOND' is numbered zero, but this causes no confusion since Chicago is also the system font. Non-Roman systems must renumber Chicago so that it will not interfere with the mapping of 'FOND' ID = 0 to the correct system 'FOND'. Typically Chicago is renumbered to 16383.

In *Inside Macintosh*, Volume V-293, The Script Manager, the descriptions of _FontScript, _IntlScript, and _Font2Script state that the current font identification number (e.g., 'FOND' ID) is used to calculate the correct script code. The equation for calculating script codes from 'FOND' IDs is as follows:

script =((FONDid - $4000) DIV 512) + 1

For a specific example, consider the Kyoto font which is one of the fonts included in KanjiTalk. Its 'FOND' ID is 16385. Plugging that value into the equation above, we get: script = ((16385-16384) DIV 512) +1. Which results in a value of one, the script code for the Kanji script system.

Note that this means that script systems other than Roman can only have 512 separate font families. Furthermore, Roman font families (FOND) must not have an ID greater than 16383, and 'FOND' ID 16383 is reserved for Chicago on non-Roman systems.

So How Do They Work?

_FontScript, _IntlScript, and _Font2Script begin by setting two Script Manager globals, Forced and Default to false. Then the two special font family ('FOND') numbers zero and one are mapped to the System and Application font.

Next the 'FOND' ID is tested to see if it is an international font. _FontScript and _IntlScript simply take the value out of the txFont field of the current grafPort. _Font2Script uses the value passed to it. The test is simply:

IF FONDid < $4000 {16384}
    script is Roman so return 0
ELSE
    script is international so calculate script id using equation described above

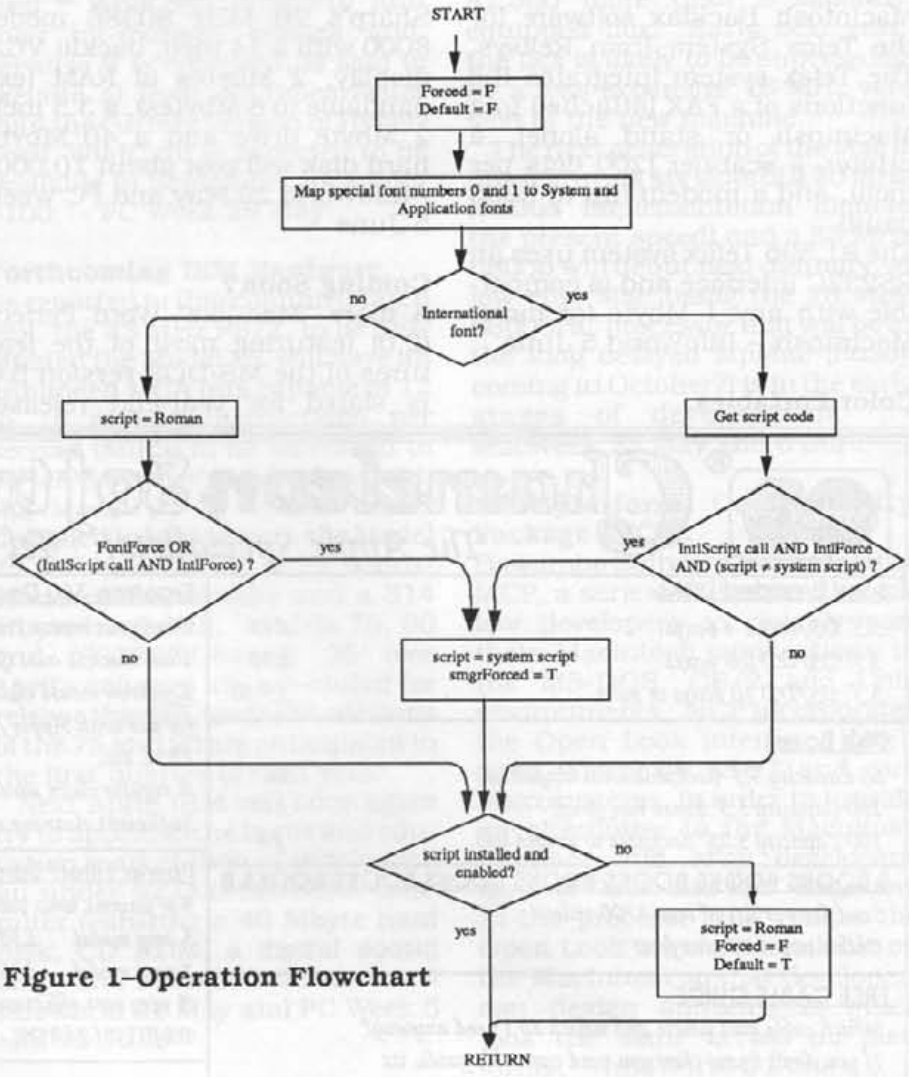


Figure 1–Operation Flowchart

Once the script code has been determined, the routine looks at the the Script Manager globals FontForce and IntlForce.

If the currently installed script is Roman and fontForce is true, or if intlForce is true and the routine called was _IntlScript, then the value returned will be the current system script. If the installed script is not Roman; the script code calculated will be returned when the routine called was _IntlScript, intlForce is true, and the script code does not equal the system script.

Once the script code to be returned as been calculated, a final check is made to be sure that the script is installed and enabled. If it is not; Roman is returned, and Forced is set to false and Default is set to true.

What's This Forced Stuff?

Two Script Manager globals, fontForce and intlForce, are flags that support compatibility. Turning fontForce on will cause Roman fonts to be interpreted as belonging to the system script. This provides compatibility for applications that hard-code font numbers.

For example, the Arabic script interface system provides a cdev which lets a user turn fontForce on. When a user does this, any Roman fonts will be mapped to an Arabic font. Note this is only a partially effective measure since the user still does not have complete control over fonts.

It should also be noted that if a user sets fontForce on via the cdev, values returned for fonts with family IDs in the range $0002 to $3FFF (Roman 'FOND' ID range) may vary. This is not a good feature for applications that allow mixed text. To avoid this problem, an application can turn the fontForce flag off before calling _Font2Script or _FontScript. The flag value should be saved before turning it off, and restored later.

The intlForce flag determines how the call IUGetIntl behaves. If this flag is on, IUGetIntl will always return the international resources ('itlx' where x is 0-2) corresponding to the system script. When intlForce is off, the font in the current port will be used to determine which international resources will be returned. This flag lets an application control what date formats, sorting routines, etc. will be used.

For that reason, before calling any of the international utility routines or using the binary to decimal routines, an application should verify that thePort and thePort^.txFont are set correctly, or that intlForce is set properly.

Let's Look at a Picture

The flowchart in Figure 1 illustrates the operation of _FontScript, _IntlScript, and _Font2Script, and how they are affected by the global flags fontForce and intlForce.

Further Reference:

- *Inside Macintosh*, Volume I-493, The International Utilities Package
- *Inside Macintosh*, Volume V-293, The Script Manager
- *Inside Macintosh*, Volume V-287, The International Utilities Package

Macintosh Technical Note #217 Where Have My Font Icons Gone?

#217: Where Have My Font Icons Gone?

Written by: Pete "Luke" Alexander
December 1988

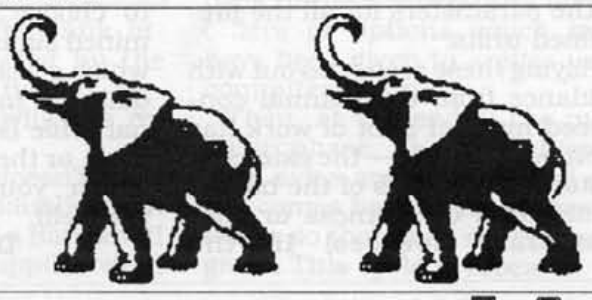
This Technical Note discusses why you should not link directly from your font files to the font icons provided by the LaserWriter driver 5.2 and later, and what you can do to still use these font icons.

In the past, it was possible to link directly from your PostScript downloadable font files to the font icons provided by the LaserWriter driver, but this is no longer possible since the 'FREF' and 'ICN#' resources no longer match the current LaserWriter driver (5.2).

Engineering decided that they did not want developers using the font icons since they could change in the future and cause compatibility problems for users. Due to time constraints, the original font icons were not removed from the current LaserWriter driver, but the 'FREF' and 'ICN#' IDs were changed, thereby preventing developers from linking directly to the icons. Engineering will remove the font icons in the next release of the LaserWriter driver.

If you want to use Apple's font icons from the LaserWriter driver, you should copy them into your font files. We expect all developers to bundle their own icons with their fonts.

Note: This Note applies only to PostScript downloadable font files for use with PostScript printers, not font files which have been created by the Font/DA Mover.



Universal Military Simulator (UMS)

Ceri Fisher presents a review of this game of strategy from Rainbird

UMS is a superbly detailed, well-crafted military simulation package in which it is possible to mastermind almost any imaginable confrontation of forces from the ancient world to the present day — and, possibly, beyond.

The approach taken is to present the opposing armies on a 3-dimensional map — a network of grid lines in which hills and valleys appear as distortions of the surface in order to portray with some accuracy the key features of the battleground.

The armies are composed of a number of units deployed in Orders of Battle which are saved in a **Scenario File**. UMS comes with a number of such scenarios, complete with their respective maps and armies in separate files, all ready to play. These battles are: Arbela (331 BC, Alexander vs Darius), Hastings, Marston Moor, Waterloo, and Gettysburg. Also supplied, for the purpose of this review, were additional Scenario disks with (i) more battles from the American Civil War, (ii) Vietnam.

The armies themselves are made up of units which are drawn from such predefined types as Heavy or Light Infantry, Cavalry, Archers, Elephants, Chariots, etc. all the way right up-to-date with Armour, Airborne and Assault troops. In addition, one can use 'Wildcard' units which have additional 'Firepower' variables (such as Firing Range) in addition to the parameters for all the predefined units.

Playing these scenarios out with guidance from the manual convinced me that a lot of work has been put into this — the extensive historical accounts of the battles (some from eye-witness or contemporary sources) in the accompanying **Scenario Handbook** make fascinating reading and enlightened me a great deal.

The first thing that happens after UMS opens is the security check — type in a specified word from the Scenario handbook ("the *n*th word from the *m*th paragraph from page *x*"). I suppose this is better than copy-protecting the disk, but it does get quite annoying (especially when having to repeatedly restart UMS because the Camera DA had crashed it — because, in turn, some situations in UMS are sufficiently *moded* for the standard screen-dump command key not to work — Daft!).

The main menu/screen is shown here :-

Although battle, army and map files are double-clickable, one still has to go through this screen to actually use them — in other words, UMS starts but then forgets what was clicked on...

Run Simulation

Leads to another menu/screen to choose one of the predetermined simulations or **Read Disk**, which gives the standard file open dialogue to choose another scenario file (say, from the Vietnam Disk, or the Civil War disk, or one which you have put together yourself).

Design Army

Allows creation of a new army from scratch or modifying an existing army file — using your own or predefined unit types in both cases. This involves building up a complete Order of Battle from individual units of the various types, for each of which it is necessary to specify appropriate values for:

strength (size): The 'granularity' of this is not defined — of course it is vital to be consistent, but the strength of units can be measured in single men or 'fire teams' of any number of men.

speed (mph): Actually, the speed is immaterial and it is ignored by the simulator which actually just moves units one square per turn, (and whoever constructs the scenario decides how many turns per 'movement phase').

moves per turn: Determines the effective movement range of a unit in each 'movement phase'.

efficiency (poor, average, crack, élite): Seems to determine how many men of one efficiency rating are a match for how many of another.

There are also a number of other variables, (e.g. 'Morale'), which UMS sets and uses during battle.

Design Map

Takes you through the procedure to create a new map or work on an old one. Maps can be thought of as 'rubber nets' where each node can be distorted one unit up or down in the vertical plane. Town markers and areas of forest can be added also, although they have no tactical significance at all. Also, maps have no intrinsic scale — the relation of grid size to battlefield dimensions is entirely up to you.

Create Scenario

Provides the means for combining two armies on a map with the other information it needs to run a battle. Armies and maps are portable across Scenarios.

Quit

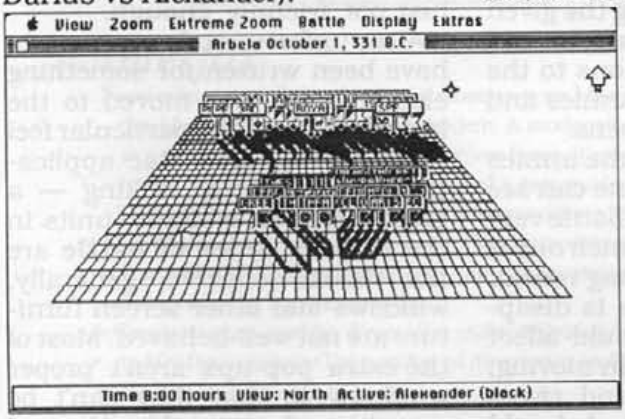
Does the obvious thing.

The blow-for-blow running of a scenario (whether supplied or dreamed-up) goes something like this:

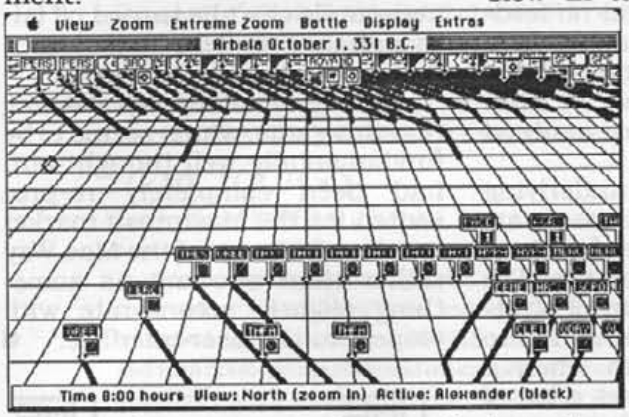
Select **Run Simulation** from the main menu window, then the

particular scenario — maybe via **Read Disk** (sounds distinctly old-fashioned! Is there a cassette player out there somewhere?).

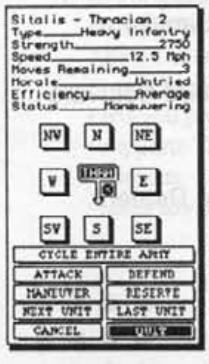
The scenario starts up with the two armies facing each other as below (this one is from Arbela — Darius vs Alexander).



The first menu item, **(View)** allows choice of viewpoint (N, S, E or W). **Zoom** takes one to a particular quadrant (NE, NW, etc.) and **Extreme Zoom** allows one to get closer to the action on *any* segment.

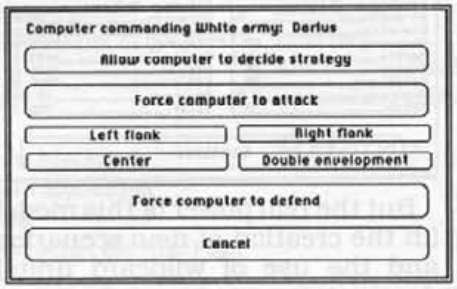


This is the command phase — if one chooses **Issue Commands** under **Battle** then one gets to give orders to the first unit in the Order of Battle. Alternatively, one can actually point at a unit on the map and it will present itself, (see picture) — along with a zoomed-in section of its surroundings so that movement orders can be given by just clicking squares/intersections on the mini-map. A unit can also be put in one of a number of modes (as shown in the picture) which increase its combat effectiveness for attack or defence with a trade-off in mobility. But no conditional orders — no "attack when you meet something".



There are two problems here. The first is losing one's bearings as different units flash up on the screen (scrolling of the maps in all modes is awkward via the **Zoom/ Extreme Zoom** menu, and is not immediate) — threats from units not on the same zoomed-in section are not obvious, although one becomes more familiar with a battle as it progresses. The second major drawback is being unable to give the same orders to groups of units (more than one) at the same time. Just look: there are 59 units in the white army (Darius'), and a lot of middle ground to cover before the armies get to grips with each other! — and UMS is quite slow in taking each 'order' and getting the next unit. A general comment here is readability of the unit flags — a row of TAXIs look indistinguishable until something start happens to one of them.

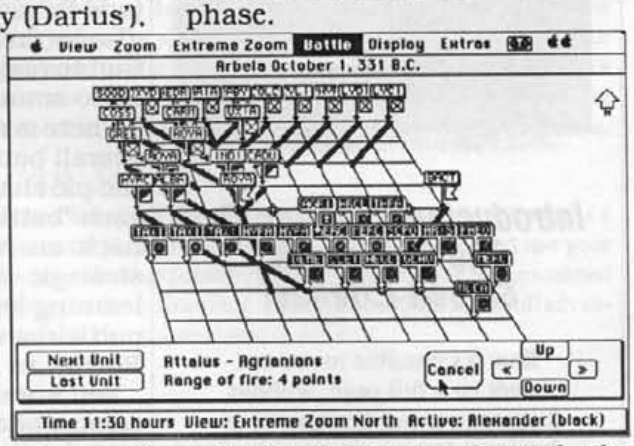
When all the orders have been given, **Battle -> End Command Phase** is selected, and UMS requests instruction on the large scale conduct of each army (see picture).



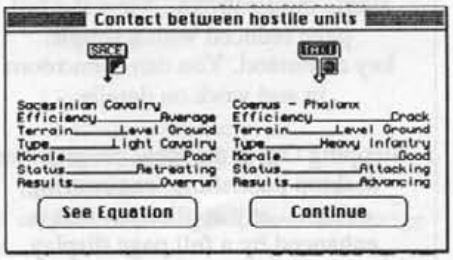
Left flank and Right flank attacks can be supported by the opposite flank — a further dialogue box finds out which is required.

Computer control doesn't override any orders individually given to units (although it's a hardwired bonus), but really supplies what might be thought of as 'default orders' for the units without orders. Human control defaults nothing and units without orders will do nothing, (the default mode is 'manœvering' so they won't fight at all).

Battle proceeds now to the movement phase, in which there are eight 'segments' (the duration of which is defined in the particular scenario file). The **Battle -> Next Simulation Phase** command advances the clock, and the units move or do whatever their orders dictate. Units with a 'ranged weapons' capability (includes Archers, Artillery, etc.) can be triggered if their army is not under Computer Control, but that's the only interference one can make during the movement phase.



Under Computer Control, the only commands are changing the view or viewing parameters — automatic zoom, whether to stop and display the result of each conflict, etc. (see picture).



Unfortunately one has to cycle through each time-segment (N), there's no way to completely speed up proceedings. 'Demonstration Mode' gives full control back to UMS — overrides all your orders or options which might have been given to armies under computer control.

Then, at the end of the movement phase, the casualties on both sides are reported and control comes back to the Command Phase so that fresh orders can be given. This cycle is repeated ☛

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until the end of the battle day, as defined in the scenario file, at which time a final analysis screen is shown with UMS' judgement of the outcome ("Neither side/Black /White forces have achieved a marginal/decisive victory").

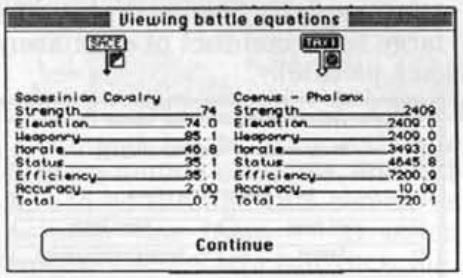
There's a lot of interest and valuable fun in running the given scenarios just as they are, or, as I did, making modifications to the Order of Battle or the Armies and then seeing what happens.

Computer control of the armies is a good feature and one can see the effect this has on a battle very well, as centre forces punch out or the flanks come swinging round.

But the use of maps is disappointing — forests should affect an army's capabilities in moving, seeing and fighting; and rivers (and larger areas of water) should also be present. Roads are important to real armies, so they should be to simulated ones.

There is no indication of how the overall battle is going, apart from the pie chart display at the end of each 'battle phase', and no feedback on how you're doing in a strategic sense, so no way of learning how to improve, or what particular mistakes were made (cf ***Patton vs Rommel***).

I'm sure that the underlying computational model when armies/units meet is one of the best and most sophisticated that I've met in my investigation of strategy games. There is an option to **View Battle Equation** when a conflict occurs — in fact a list of variables, few of which are seen anywhere else (see picture).



But the real power of this model (in the creation of *new* scenarios and the use of wildcard units) does not seem to be easily accessible. I'm not at all sure how many users would be prepared to go through the rather laborious and cumbersome procedures required to create a major battle from scratch especially when operating from ignorance about the significance of UMS' 'magic numbers'. The only variables which can be set for a wildcard unit are its firepower and its range — and the manual does not help with discussed examples (e.g., it doesn't give the rationale for the choices in the predefined scenarios). This whole aspect is just not 'friendly' enough.

Also, unfortunately it seems to have been written for something else before it was moved to the Macintosh, and the particular feel of a thoroughbred Mac application is completely lacking — a great pity. For example, units in the **Display order of battle** are not mouse-sensitive; generally, windows and other screen furniture are not well-behaved. Most of the extra 'pop-ups' aren't 'proper windows' in that they can't be repositioned or reshaped, and they don't refresh properly or interact well with other windows (e.g. DA's — 'though it does work with Multifinder). Menubar items fail to respond in some 'modes', so for example the trivial and annoying sounds can't be turned off (although they're silent under Multifinder).

I would conclude by wishing that this game, which seems to be fundamentally well thought-out, had been completely re-presented for the Macintosh market to take advantage of the Mac Way rather than showing us something slightly second-rate with respect to the user-interface.

UMS UMS

UMS UMS

info

Product : Universal Military Simulator

Publisher : Rainbird Software

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products for Macintosh

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Confessions of a Computer Caprice

The trials and tribulations of an everyday computer user.

As a follow-up to my last article, I finally heard from AppleCentre that my copy of FreeHand had arrived and I now have the latest version. However, now that TMC is in financial trouble I wonder what will happen about all the programs that they were supposed to support.

I now seem to be running through a spate of hardware problems although my difficulties really started some time ago.

At that time I had a MacPlus. Well, really it was an upgraded 512 and I had bought, cheaply, a memory upgrade making it 2 Meg. I also had a fan installed and obtained a Radius Full Page Display, which you would think was A3 and not the A4 size that it is. The installation of the appropriate circuitry meant, of course, that my memory upgrade would not fit and I had to buy different memory and made the machine 2.5Megs. I had a 20M Qisk and when that was full added a 67M miniQisk. Then I acquired an Apple scanner, which was where my troubles started. Having some time free I read some of the manual. The first item on the SCSI port should be terminated and so should the last. All items in between should be unterminated. Well, there was a MacUser show at about this time so I bought a few appropriate cables because you only get supplied with the cable that couples the Mac to the external device, not the cable that couples two external devices together and I also bought an external termination resistor. The 20M drive was easier to get at so I removed the internal termination and connected everything up and switched on. I think that once, in the two or three days I tried, I actually got everything working at the same time with both discs appearing on the desktop and the scanner actually scanning but most times one item would not appear and in the end I ran only the scanner and the miniQisk.

Then I had the opportunity to obtain a Mac II at a very reasonable price so I did. This came with an internal 45 M hard disc and by then, having filled my 20 M and the 67 M I also had a 140M hard disc. I did try connecting all of them together (being ever the optimist) but the 20 M insisted that it was not a Mac disc and did I want to reformat it (it appeared on the desktop when connected to the MacPlus but not when connected to the Mac II) and the 67 M seemed to appear and disappear according to its mood, so, eventually, I kept the 20 and 67 Megs on the MacPlus and the internal and the 140 Megs on the Mac II. But then the scanner would not appear. I connected it in all locations, I disconnected the internal disc (which appears to have an unconventional SCSI number but I don't know how to alter it and I can live with the result) and tried only the two external devices. I coupled the scanner first in the chain, last in the chain and in the middle of the chain but each time I opened Apple Scan I was told the scanner was not connected, check the cables or the on/off switch.

I complained to the shop the scanner had come from but all they could suggest was to return it, but at the time I was living temporarily 200 miles away from the shop and was unable to get there at any time they were open. When I got the scanner it did not, of course, include a copy of HyperScan, which the reviews said was provided on the disc, and the shop never contacted me to supply one but I did visit the shop after I had found that the program should have been provided and before I had the Mac II and was given one, but without any documentation.

Well, after trying to get the scanner to work for some time, and after, briefly, connecting someone else's scanner and finding it would not recognise that either, I found some documentation for HyperScan and, having some time free (no-one seems to read instructions before trying something but only as a last resort when all else fails or because it is the only thing to hand when you have some time to spare) read a little of it. To run HyperScan, it said, first drag the program *Scanner* into your system folder. I don't remember ever seeing a program called *Scanner*, I thought, so I looked in the system folder. I was right, no such program existed. So I opened my Apple Scan folder and, again, no such program existed. Thinking it through, it is possible that I copied the Apple Scan folder from the miniQisk onto the 140 M disc after Scanner had been dragged into the system folder on the miniQisk and so lost it but I cannot ever remember putting it into any system folder at all.

Anyway, I got the original Apple Scan disc out, found it had a Scanner, dragged it into the system folder on the internal disc and found that AppleScan would now find the scanner and would even scan documents for me again. Now, this was all created by stupidity on my part and by the fact that since it all worked once I never read the manual again when it wouldn't work the next time but assumed that the SCSI socket must have been damaged when items were connected and disconnected or that there was something wrong with my second-hand Mac. But I

had complained quite vociferously at my dealers and no-one had made any suggestion that Scanner was not in the system folder or was in the folder but may have become corrupted. Having found out that this was the trouble I would have thought that some expert would have at least mentioned it as a possibility to me rather than insisting that the whole caboodle including the Mac and the scanner should be returned to the shop during working hours Monday to Friday.

Anyway it now scans but since my Plus is getting very temperamental (it quits on me at unexpected times usually just as I get near the end of doing some extensive alterations on a document) I am having difficulty in getting my original scans off the miniQisk, which only the Plus will recognise as a disc. I did try using TOPS (which is a nice program) but the Plus again insisted in quitting at the most inappropriate time and I am still staying 200 miles away from my dealer and have not been able to return the Plus for a check-up.

To add further to my miseries, the 140M is being awkward and that carries what was going to be this month's article. Well, you might see that in the future because this is a completely new one the original being still lost on a disc that half-way through loading gives up or goes into an endless accessing loop. I also run a PD library for a local User Group and all the new items are also on that disc. Fortunately I keep the original discs on which I first receive the programs but I will have to sort out what has been put on group discs and what was being compiled until a new disc was full. I had been playing with Easy Envelopes+ because Easy Envelopes had seemed promising and I do like to be able to address envelopes directly using the LaserWriter. (For those not knowing Easy Envelopes it is a Shareware D.A. that allows you to print addresses on envelopes. I use a LaserWriter IINT which has a variable width paper guide which positions envelopes in the middle of the paper run and Easy Envelopes causes the addresses, in whatever size and font I choose, to be printed right in the middle of the envelope.) However I had had problems with the earlier program with some crashes and sometimes the program not opening and having to be re-inserted with the consequent loss of the address list. Also it only had four lines for the addresses and, although this may be sufficient for America, it gave problems for English addresses. The new version will store 32,768 addresses (I think the old one held 99) and there are now five lines for the address. I have only used it once or twice so I don't know if it will give the same problems as the old one but it looks promising. I also have what seems a very nice Solitaire card game, Seahaven Towers (in colour - it says), but I received it packed and the unpacked version along with the unpacking program is on the 140 Meg disc at present so I only had one brief try at playing the game and was not sure of the rules at that time and had the Mac displaying only black & white. Anyway, look out for it.

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MacSeptember 89

Ewen Wannop takes his Mac to meet the MacTel communicators

Two years ago the MacTel Bulletin Board thought of an idea that could bring its members face to face for the first time. With a great deal of hard work, David NicholsonCole steered a group of willing helpers into putting on a two day seminar on the Macintosh. The event turned out to be a runaway success and it was simply a matter of time till it would all happen again.

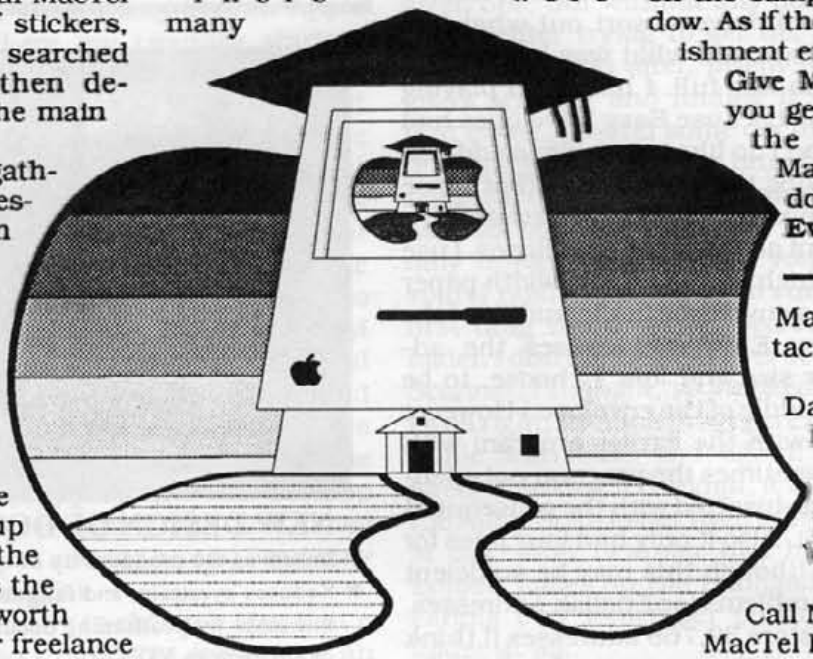
On the weekend of the 15th - 17th September over 120 eager Macintosh enthusiasts gathered in the Lincoln Hall of Nottingham University. Gathering our MacTel mug and a handful of stickers, badges and papers, we searched out our rooms and then descended to dinner in the main hall.

After dinner we all gathered for an Evening presentation by the main User Groups and Apple UK. The highlight for us all was to hear Derek Baker from Apple, assure us that Apple had not deserted the user, and was committed through him to supporting us all into the future. Derek takes up this responsibility on the 1st of October and fills the gap left by Mary Ainsworth when she left Apple for freelance shores.

Derek then gave us a run down on the current state of affairs on the Apple front, and I was much amused at his 'AppleSpeak' when he told us that 'the portable Mac did not exist' adding after a pause '... that is until the 1st of October!'

The weekend was structured round a series of workshops and seminars that allowed all the participants to try out new avenues on their Mac's with the guiding hands of an expert close at hand. We had all taken our Mac's along, from the Mac+ to the Mac II, the place was littered with carry cases, hard drives, and Apple boxes. Some people chose to dip into different sessions, others chose to follow a particular path. I chose to follow items related to CAD and Graphics, as this was an area I wished to polish up in. However the subjects ranged from Hypercard to music, Double Helix to networking and C, DeskTop publishing, spreadsheets et al.

There were many people there who simply wanted to take the time to learn how to do things properly. Most of us rush into programs on the Mac, casting aside the manuals and never really getting to grips with things in the correct sequence. It was a joy to have the time to simply get familiar with a simple concept and to be able to explore it without getting lost in HyperSpace ...



Saturday night saw us back in the main hall to a considerably better gastronomic offering than the night before. The Nottingham students certainly don't get gourmet meals! The hall is a large empty space, and after dinner we were treated to an after dinner speaker. Michael Bywater is no stranger to Mac User readers, and his witty speech was much enjoyed by those who managed to catch his words in the echoes of the great hall.

The dinner over, some repaired to bed (or SCSI drives), others trekked to the bar and talked till midnight.

On Sunday we continued the seminar/workshops with subjects as far apart as CAD and comms.

It was a very rewarding experience. Many faces were put to names and voices, and I would say everyone came away with more knowledge than they had on the Friday night.

The most dispiriting point of the whole weekend was being woken up at 8am by a team of hearty joggers going through their paces on the campus outside my window. As if the beds were not punishment enough!

Give MacTel a call, and if you get a chance to attend the next time that MacSeptember is run, don't think twice ... Go!

Ewen Wannop

MacTel can be contacted through:

David NicholsonCole
15 Elmtree Avenue
West Bridgford
Nottingham
NG2 7JU
VoiceTel 0602-810237

Call MacTel itself:
MacTel HQ: 0602-475444
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Mac Library

Watch out for the following programs in the updated Library Catalogue.

ASharePonder is an INIT by Kees de Ridder, Free University, Chemical Dept., de Boelelaan 1083, 1081 HV Amsterdam, the Netherlands, which takes the name from the AppleShare Prep file and pastes it to the ChooserName. So if the user autologs on a server the choosername will always be correct after logging in. (Because ASharePonder runs before Responder the Network Manager always sees the correct name.)
Usage :•Place the INIT in a system folder. (Or a shared INIT folder.)
Notes :•The INIT has to be operated after AppleShare and before Responder.

Theldrow 2.2 - part 1 of 12
Theldrow version 2.2. Author's comments: The good news is that there are a lot of bug fixes, tons of new things, and it is faster. The bad news is that it is only the first scenario still, but I'll post the second one separately when I finish it. For those of you not familiar with the game, it is a graphic adventure game similar to Wizardry, sort of. It is complete with online help. It is freeware (actually, it is more like jobware - hopefully some one will be impressed with this and give me a job - resume available upon request), so enjoy.

Facade 1.0 INIT
Facade is an INIT that allows easy (well, if ResEdit is easy) customization of volume icons. Hard disks, tape drives, floppies, AppleShare volumes, etc, all can display any icon you want.
This is an INIT which allows a user to assign special ICN#s to their disks.
To use it, just drop Façade and FaçadeIcons into your system folder and reboot. Use ResEdit to put ICN# resources that you'd like to see into the FaçadeIcons file. Give the ICN#s the same name as the disks you want to put them on.
Renaming a disk will cause it to get a new picture right away. (Well, almost right away. The Finder doesn't update its screen immediately, so you have to pick up the disk and drop it for the Finder to draw the new icon.)
Façade comes with a few icons already installed: Calvin, Hobbes, Godzilla, Untitled, and Moof
Greg Marriott
Apple Computer, Inc.

HP DeskJet 2.1
HP DeskJet 2.1 is a printer driver for those using the HP DeskJet printer.
BatchPrint
BatchPrint is a utility application for the HP DeskJet 2.1 Printer Driver. The full source code of BatchPrint is available and you can change BatchPrint or use pieces of it in new free programs.

MW Launcher
Author's comments: Those of you who have got MacWrite II will by now be either pretty fed up at not being able to double-click on old MacWrite files or else kept a copy of MacWrite on your disk just to do this. Well, I got pretty fed up, so here is a simple application that just launches MacWrite II when old MacWrite files are double-clicked. Simply put it into the same folder as MacWrite II. Throw away MacWrite 5.0 or 4.5 first before copying MW launcher on to your disk. It may be necessary in some circumstances to rebuild the desktop (hold down option-command keys when launching the Finder).
NB. The program is pretty crude: it simply launches the 1st application in the same folder as itself that has a Finder creator of "MWII". Actually, the creator is read from the 'fCre' resource in the launcher, so you can change this to launch other apps if you want (don't forget to change the BNDL resource). You might want to do this for MacDraw for example.
Many thanks to Apple for Tech Note 126 from which I have shamelessly copied most of the code. Have fun!
Sak Wathanasin

RezDest
Author's comments: This is the source and binary to RezDest, an MPW tool for deleting the resource fork of 'TEXT' files.
Deleting the resource fork of 'TEXT' files, typically a number of files containing program source, can lead to significant reductions in disk usage. The problem arises when you decide to distribute, sell, make available for public consumption, or archive your 'TEXT' files. Sometimes, in these situations the contents of the data fork of the files is all that is of interest. Say that I mail you a disk containing the C sources to "Whiz•Bang!," my image-processing program for the Mac. How much do you care about the last place I had the insertion point in the file, my font preferences, and what my tab stops were? This is a hard question to answer.
If the answer is "Not at all!" then this program can be of use to you. The settings included in the resource fork of this document might convince you of the program's utility, particularly if you view it with MPW Shell. This is, then, a dangerous program. It can do really bad things to well thought out and carefully implemented plans. It can, on the other hand, remove kilobytes of fluff from your hard disk and backups. How you use it is up to you.
The program RezDest is an MPW Tool. It requires MPW Shell to run. Although the binary I distribute has been compiled with Aztec C, it will not run under the Aztec Shell. Since I include the source, this should not be an inconvenience. RezDest supports software multitasking under MPW Shell 3.0 and MultiFinder, by spinning the cursor. It will complain if asked to act on non-'TEXT' files, and will do nothing to such.

StrtScrn 2.0 INIT
Author's comments: Here is an

INIT which shows a message (which is placed on a server) during System startup.
Usage: Place the INIT in a system folder (or a shared INIT folder). Place a textfile made with Edit on a server. With ResEdit make STR 129 in the INIT the full pathname to that file. That's all!
When there is no textfile the INIT will do nothing.
Kees de Ridder

THINK Pascal 2.01 Update
This is an update that fixes bugs in THINK Pascal 2.0.
The patch program, "THINK Pascal => 2.01", transforms your version 2.0 (or later) into version 2.01. You are prompted to locate the copy of THINK Pascal to be patched.
In addition, new versions of the libraries "Runtime.lib" and "μRuntime.lib" are provided. You should replace your originals with the new ones.

MPW C Bugs
Author's comments: Here, for your horror, is a VERY UNOFFICIAL list of bugs in MPW 3.0. By very unofficial, I mean that this list may or may not be 100% correct, and it certainly doesn't read very well. Right now, the document is just fodder for an up and coming technote, but until then, it should make some sort of sense. Also, this document is a TEXT version of a MS-WORD file, and the formatting lost something in the translation...
If you have any bugs in MPW that aren't on this list, please let me know.
Keith Rollin - Apple Developer Technical Support

WindDemo 1.0
Author's comments: WindDemo contains a window definition procedure (WDEF) that implements a tiny window, with a tiny title-bar below the contents. If the window is larger than a particular size, the WDEF acts like a standard, zoomable window.
Here's one typical use:
Somebody is running your program. They're temporarily finished with a window, but they don't want to close it just yet.
They use the grow box to shrink the window to almost nothing, and the window collapses into an icon with a finder-like title below it.
When they want to continue working with the window, they just click its tiny zoom box to restore it to its normal size.
This posting contains the new WDEF, a demonstration program, and the source (in LightSpeed C) for the works. It's all public-domain. WindDemo runs only on systems that support zoom-windows.
Brad Needham

ZTerm v0.8
This is a well used terminal program for the Macintosh.

Nisus Demo
This is a demonstration version of Nisus, a new word processor for the Macintosh from Paragon Concepts. For more about Nisus, see the review of this product in Apple2000 June 1989.

GateKeeper 1.1.1
Author's comments: GateKeeper 1.1.1 includes a fix for a major bug that occasionally caused the privilege list to appear empty or trashed, and contains a number of minor additions that significantly increase the flexibility of the security system. Refer to the enclosed release notes for a complete description of the changes.
GateKeeper 1.1.1 is distributed preconfigured with about 40 of the most commonly required privileges in order to make installation of this new version as painless as possible.
It includes the following files:
1. GateKeeper – Control Panel document 2. GateKeeper Introduction – MacWrite document 3. GateKeeper Release Notes – MacWrite document 4. READ ME - TeachText document
If you've never used GateKeeper before, begin by reading the "GateKeeper Introduction," then move on to the release notes. If you are already familiar with GateKeeper, briefly review the release notes before proceeding.
Chris Johnson

Hypertext report on Hypertext Conference
This is the final release of the hypertext report on events at the 1987 Hypertext conference in Chapel Hill, NC. This is version 3.4 and should replace earlier versions.
The hypertext system requires HyperCard 1.2 or newer as its runtime engine, and is an example of hypertext using multiple-level overview diagrams, history lists, and the user's personal interaction history in the form of footprints.

MacCompress 3.2
Author's comments: MacCompress is a fast general-purpose file compression program for the Macintosh 512K Enhanced and later machines. Its powerful features include compression of folder hierarchies and ability to import/export unix compress files. MacCompress is fast, reliable, and free. Enjoy.
Lloyd Chambers

SendPS tool for MPW 3.0
Author's comments: SendPS is an MPW tool that sends a text file to the currently selected LaserWriter (or other PostScript device) as PostScript, without any other interpretation. Any output sent back from the printer is sent to standard output. For example, sending a file consisting of the line:

FontDirectory { pop = } forall

will display a list of all of the fonts currently loaded into the printer's memory.
Amanda Walker
InterCon Systems Corporation

Unix Functions for the Macintosh
A bundle of Unix functions for the Macintosh.

VirusDetective 3.0.1 DA
Author's comments: VirusDetective is a DA for tracking down viruses (or any resources) in files. You specify the resource type and various attributes. Once the offending resource is found it can optionally be removed from the file (use this feature with caution) or file deleted. The user can update the search list at any time. Shareware.
Version 3.0.1 corrects a problem where Data scans would fail in certain situations (evident in the System file searches but *not* in the application searches). Update postcards will be going out to all registered users this week. All those who paid to receive 3.0 will be getting 3.0.1 free of charge.

User Groups

London Region

ESSEX GROUP

CONTACT - Pat Bermingham Tel : [illegible]
VENUE - The Y.M.C.A., Victoria Road, Chelmsford
MEETS - Third Friday of every month

CROYDON APPLE USERS GROUP

CONTACT - Graham Attwood Tel : [illegible]
VENUE - 515, Limpfield Road, Warlingham, Surrey
MEETS - 7.30pm on the third Thursday of every month

HERTS & BEDS GROUP

CONTACT - Norah Arnold Tel : [illegible]
VENUE - The Old School, 1, Branch Road, Park Street Village, St Albans, Herts.
MEETS - 8.00pm on the first Tuesday of each month

KENT GROUP

CONTACT - Richard Daniels Tel : [illegible]
VENUE -
MEETS - Contact Richard

LONDON APPLE II GROUP

CONTACT - Chris Williams Tel : [illegible]
VENUE -
MEETS - Contact Chris

LONDON MACINTOSH GROUP

CONTACT - Maureen de Saxe Tel : [illegible]
VENUE - Room 683, London University Institute of Education, Bedford Way, London, WC1
MEETS - 6.00pm on the second Tuesday of every month.

M25 BUSINESS MAC GROUP

CONTACT - Jim Panks Tel : [illegible]
VENUE - Sir Mark Collett Pavilion, Heaverham Road, Kemsing, Sevenoaks, Kent
MEETS - Phone Jim for details

SOUTH EAST ESSEX MAC GROUP

CONTACT - Mick Foy Tel : [illegible]
VENUE - D.P.S. Acorn House, Little Oaks, Basildon, Essex
MEETS - First Monday of each month

South

POOLE MACINTOSH USER GROUP

CONTACT - David Huckle Tel : [illegible]
VENUE - Deverill Computers (dealer) Itec House, 34-40 West Street, Poole, Dorset BH15 1LA
MEETS - Four times a year

SOUTHAMPTON

CONTACT - Geoff Parson Tel : [illegible] (work)
Tel : [illegible] (home)
VENUE - Contact Geoff for details

Wales and West

BRISTOL GROUP (B.A.U.D)

CONTACT - Colin Rogers Tel : [illegible] (work)
Tel [illegible] (home)
VENUE - Decimal Business Machines Three Queens Lane, Redcliffe
MEETS - 7th day of each month, or the Friday nearest to it if the 7th falls on a Saturday or Sunday

HANTS & BERKS GROUP

CONTACT - Joe Cade Tel : [illegible]
VENUE - Thames Valley Systems (Apple Dealer), 128 High Street, Maidenhead, Berkshire, SL6 1PT Tel [illegible]
MEETS - 7.00pm on the second Monday of every month

MACTAFF - SOUTH WALES MAC GROUP

CONTACT -
VENUE - Apple Centre South Wales, Longcross Court 47 Newport Road, Cardiff
MEETS - Contact Apple Centre

Midlands

CAMBRIDGE APPLE USERS GROUP

CONTACT - Ian Archibald Tel : [illegible]
Mac Richard Boyd Tel : [illegible]
VENUE - Impington Village College, New Rd, Impington, Histon.
MEETS - Fortnightly during term time with both Mac and Apple II on deck each night.

EAST MIDLANDS MAC USER GROUP

CONTACT - Nick Helm Tel : [illegible]
VENUE - Wilford Cricket & Rugby Club, Nottingham
MEETS - 8.00pm on the first and third Wednesday of every month.

GATEWAY COMPUTER CLUB

CONTACT - Vern Tel : [illegible]
Robin Boyd Tel : [illegible]
VENUE - Bob Hope Recreation Centre, R.A.F Mildenhall
MEETS - AMS conference room, Mildenhall base. Normally at weekends, check with Robin NOTE : Although the venue is on a service base it is not in a security restricted area so the club is open to interested parties.

LEICESTER GROUP

CONTACT - Bob Bown Tel : [illegible]
VENUE - Shakespeare Pub, Braunstone Lane, Leicester
MEETS - 7.30pm to 10.0pm on the first Wednesday of every month

LIVERPOOL GROUP

CONTACT - Irene Flaxman Tel : [illegible]
VENUE - Check with Irene
MEETS - Second Monday of every month.

MIDAPPLE

CONTACT - Tom Wright Tel : [illegible]
VENUE - I.T.E.C., Tildasley Street, West Bromwich, West Midlands
MEETS - 7.00pm on the second Friday of every month

THE MIDLAND MAC GROUP

CONTACT - Ivan Knezovich Tel : [illegible]
VENUE - Spring Grove House, West Midland Safari Park, Bewdley, Worcestershire.
MEETS - 8.00pm on the first Tuesday of every month

WEST MIDLANDS AMATEUR COMPUTER CLUB

CONTACT - John Tracey Tel : [illegible]
VENUE - Hill Crest School, Simms Lane, Netherton, Near Dudley.
MEETS - 7.00pm on the second and fourth Thursdays of each month.
NOTE - - This is not an Apple user club, it is a general interest club which welcomes users of all machines. There are currently two Apple user members.

North

BURNLEY APPLE USER GROUP

CONTACT - Rod Turnough Tel : [illegible]
VENUE - Michelin Sports Centre
MEETS - 2nd Wednesday of each month

CREW COMPUTER USER CLUB

CONTACT - Paul Edmonds
[illegible]
VENUE - Christ Church Hall, Crewe
MEETS - Fortnightly, Fridays, 7.30pm to 10.00pm
NOTE: this is a general interest group with Apple users among its members

HARROGATE AREA

CONTACT - Peter Sutton Tel : [illegible]
No active organised group in this area but there are a number of keen Apple users in contact with each other.

THE NORTH EAST APPLE COMPUTER CLUB

CONTACT - Philip Dixon Tel : [illegible]
VENUE - Apple Centre North East, Pontcland Road, Ponteland, Newcastle-on-Tyne
MEETS - First Wednesday of every month

THE NORTH WEST APPLE COMPUTER CLUB

CONTACT -
VENUE - Horse & Jockey Pub., Winwick Road, Warrington
MEETS - First Monday of every month

THE NORTH WEST APPLE USERS GROUP

CONTACT - Max Parrot
Tel : [illegible]
Tel : [illegible]
VENUE -
MEETS - Ring Max

Scotland

EDINBURGH GROUP

CONTACT - Ricky Pollock Tel : [illegible]
VENUE -
MEETS - Meetings monthly, check with Ricky

Postal

APPLE II PROGRAMMERS CLUB

CONTACT - Philip Dixon TEL : [illegible]
VENUE - None established yet
MEETS - No meetings yet, has operated through postal newsletter published quarterly
NOTE : Philip started the club some time ago based on a membership fee of £1.00 to cover the cost of newsletters. Original intention was to concentrate on BASIC and Assembler programming.

New Groups

DORCHESTER

CONTACT - Ron Hoare Tel : [illegible]
VENUE -
MEETS Meeting on March 1st -contact Ron Hoare

ORPINGTON COMPUTER CLUB

CONTACT - Terry Wheeler Tel : [illegible]
VENUE - G.E.A. Hall, Woodhurst Avenue, Petworth
MEETS - Contact Terry

DONCASTER SOUTH YORKSHIRE

CONTACT - Colin Withington Tel : [illegible]
VENUE -
MEETS - Contact Colin

LEEDS

CONTACT - Bob Miller Tel : [illegible]
- T Veluppillai Tel : [illegible]
VENUE -
MEETS - Contact Bob

If you want to start a group, find out about a group that might be near you, please write or contact John Lee the Local Group Organiser at the PO Box in Liverpool, or phone John Lee on [illegible].

If you are a local group organiser and have not been in touch with John Lee, please contact John with details of your group, or any changes there may be to the above details.

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'Phone Mike .....

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'Phone S. Bowen 01 262 6290

FOR SALE

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FOR SALE

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'Phone Paul .....

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Offers, please. Ideally, most to go to one person as a job lot. In order to encourage this, extra software thrown in if someone buys a substantial chunk.
'Phone Bill Hill (or contact via TABBS) .....

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'Phone Jack Heywood .....

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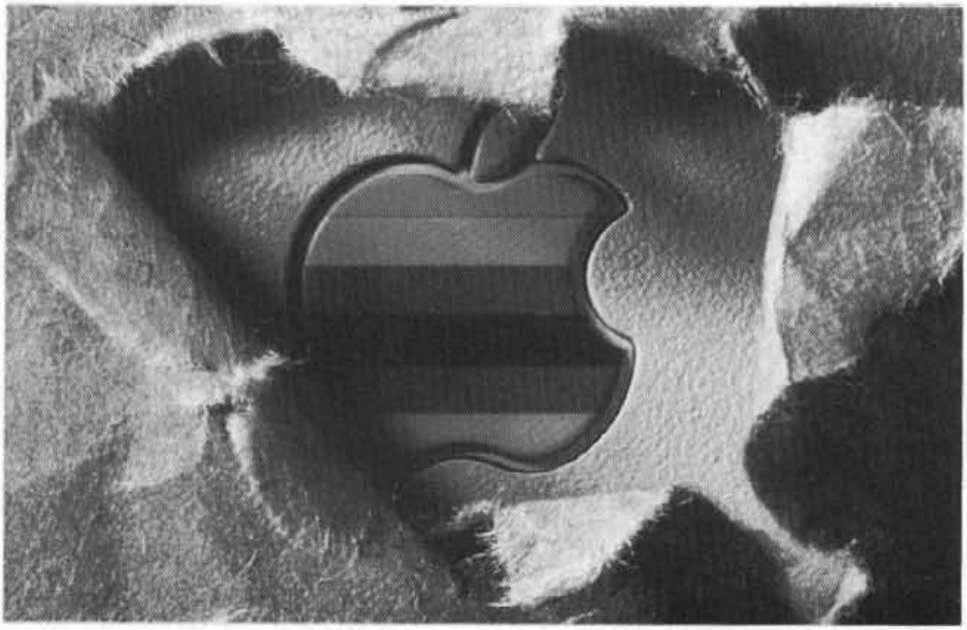

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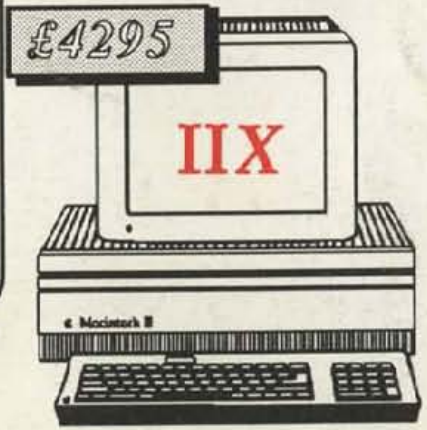

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